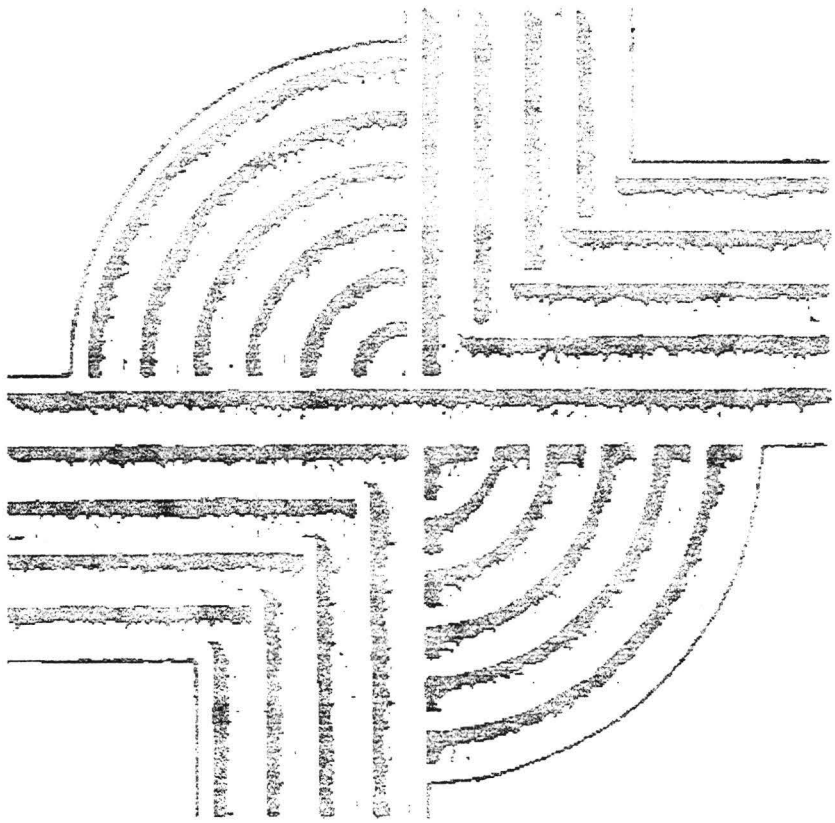
FORT STEWART 9: AN ARCHAEOLOGICAL SURVEY OF NATURAL RESOURCE MANAGEMENT UNITS A6.4, A8.1, AND B24.2, FORT STEWART, BRYAN AND LIBERTY COUNTIES, GEORGIA



CHICORA RESEARCH CONTRIBUTION 262

FORT STEWART 9: AN ARCHAEOLOGICAL SURVEY OF NATURAL RESOURCE MANAGEMENT UNITS A6.4, A8.1, AND B24.2, FORT STEWART, EVANS AND LIBERTY COUNTIES, GEORGIA

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Prepared By:
Rachel Campo
Michael Trinkley
and
Debi Hacker

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Chicora Foundation, Inc.
P.O. Box 8664 ▪ 861 Arbutus Drive
Columbia, South Carolina 29202-8864
Email: chicora@bellsouth.net

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ABSTRACT

This study represents an intensive archaeological survey of 3 areas in Bryan and Liberty counties. The survey areas are Natural Resource Management Units A6.4, A8.1, and B24.2.

Survey tracts NRMU A6.4 (298.14 ha), and A8.1 (239.01 ha) are located in both Bryan and Liberty Counties, and B24.2 (256.07 ha) is located entirely within Bryan County.

This work is being done in order to comply with the National Historic Preservation Act (Public Law 89-665, as amended by Public Law 96-515), Guidelines for Federal Agency Responsibilities, under Section 110 of the National Historic Preservation Act, Army Regulation AR 200-4 (Cultural Resources Management) and 36CFR800 (Protection of Historic and Cultural Properties). The project is administered for the United States Army by the National Park Service (NPS), Southeast Regional Office. The scope of work specified that the entire project area be surveyed as high probability using transects and shovel tests spaced at 30 m intervals, or low probability using transects spaced at 30 m and shovel tests spaced at 50 m intervals.

The primary purpose of this investigation is to identify and assess the archaeological remains present at Fort Stewart for the National Register of Historic Places. There were also a number of secondary goals which included:

- exploring the effectiveness of the current Fort Stewart predictive model and examining prehistoric and historic patterns of land use, location, and site intensity;
- exploring site function/duration based on artifact content; and
- better understanding the regional culture history.

These investigations incorporated a review of previously reported site files located at the office of the base archaeologist. A single previously recorded site was located in survey tract NRMU B24.2 (9BN113). In addition, the base's Historic Preservation Plan was consulted regarding sites or structures on the National Register of Historic Places within the three survey areas.

Five archaeological sites and four isolated occurrences (which are also assigned site numbers) were identified during the survey. No sites were located in NRMU A6.4. One site and one isolated occurrence were located in NRMU A8.1. Four sites and three isolated finds were located in NRMU B24.2.

Only one site, 9BN186, is recommended as indeterminate (potentially eligible) for inclusion on the National Register of Historic Places.

Identified Sites and Eligibility

Tract	Site	Assessment
A6.4	none	Ineligible
A8.1	9LI420	Ineligible
	9LI422	Ineligible
B24.2	9BN181	Ineligible
	9BN182	Ineligible
	9BN183	Ineligible
	9BN184	Ineligible
	9BN185	Ineligible
	9BN186	Indeterminate
	9BN113	Ineligible

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ACKNOWLEDGMENTS

While the work at Fort Stewart was conducted in compliance with various national historic preservation requirements, we wish to thank all of those involved for their support and interest in the project. In particular, at Fort Stewart, we thank Mr. David McKivergan (Base Consulting Archaeologist) and Mr. Brian Greer (ORISE intern) for their assistance. Mr. William Rutlin of Integrated Training Area Management provided us with GPS assistance which allowed us to provide GPS differential corrections. Dr. David G. Anderson (National Park Service) administered the project for Fort Stewart. We appreciate his interest, encouragement, and confidence. Ms. Kimberly Washington (National Park Service) assisted us in navigating the paperwork for payment — a seemingly essential component of science.

We would also like to thank personnel at the Georgia Archaeological Site Files for providing direction concerning the filing of site information and assistance in providing publications related to the background research of this project.

The success of this project is largely due to the dedication and professionalism of the field crew which included Ms. Kerri Barile, Mr. Scott Brish, Mr. Bradd Bunce, Ms. Katherine Carr, Ms. Bonnie Frick, Ms. Elizabeth Fuller, Mr. Todd Hejlik, Mr. Rick Hill, and Mr. Sean Norris. The surveys were conducted from November 1998, to December, 1998 and we appreciate their dedication and hard work. Thanks also to Ms. Kerri Barile, Ms. Suzanne Coyle, and Mr. Todd Hejlik who helped process the collections.

INTRODUCTION

Survey Background

Investigations for Natural Resource Management Units A6.4, A8.1 and B24.2 on Fort Stewart, Georgia were conducted by Rachel Campo of Chicora Foundation, Inc. for the National Park Service. These three Natural Resource Management Units consist of 793.22 ha. Fort Stewart is located in southeastern Georgia and encompasses portions of Liberty, Long, Tattnall, Evans, and Bryan counties (Figure 1). Natural Resource Management Units (referred to as NRMU) A6.4 and A8.1 are located in both Bryan and Liberty counties, while NRMU B24.2 is located in Bryan County (Figure 2).

Georgia State Highway 144, which travels east-west, and Georgia State Highway 119, which travels north-south, are the two major highways that run through the post. Intersecting these main roads at various locations within the post are a network of primary and secondary clay or sand roads. The clay based, primary roads provide access to a number of secondary perimeter and firebreak roads, as well as random two-rut vehicle tracts. A number of these roads, follow eighteenth and nineteenth century roadbeds, such as Georgia State Highway 144 which follows Hencart Road.

Survey tract NRMU A.6.4 (298.14 ha.) is bounded by Fort Stewart Road 53 to the west, Fort Stewart Road 53B to the south and southeast, and Fort Stewart Road 57 to the northeast. The northern survey tract boundary is a swamp that skirts a ridge of high land (Figure 3).

Georgia State Highway 144 is the northern survey boundary for tract NRMU A8.1 (239.01 ha). Fort Stewart Road 53A marks the western boundary and Fort Stewart Road 53 marks the eastern boundary (Figure 4).

Survey tract NRMU B24.2 (256.07 ha) is bounded to the south by Georgia State Highway 144. Fort Stewart Road 58 marks the north boundary and Fort Stewart Road 58A marks the west boundary. A canal marks the eastern boundary of the tract (Figure 5).

All of the survey tracts are heavily wooded with a mix of pines and hardwoods. Cleared areas within the boundaries are generally the result of burning operations conducted by Fort Stewart personnel. A number of the tracts contain thick vegetation and a very dense underbrush, particularly those tracts located near wetlands, swamps, canals and creeks. Only a few areas within these tracts contained stretches of open fields covered in grasses, such as food plots. Most of the topography for all of the tracts was relatively flat.

All survey tracts were examined using transects spaced at 30 m intervals. Shovel tests were excavated at 30 m intervals along these transects, in high probability areas, and at 50 m intervals in low probability areas. After a positive shovel test on the transect was identified, the area was further tested by using a north-south cardinal grid pattern at 10 m intervals. A 50 cm square test unit was excavated at all sites other than isolated finds. A site is defined as a concentration of more than five artifacts in a 20 m diameter area. Thus, an isolated find would contain five or fewer artifacts in a 20 m diameter area.

Measurements, in compliance with the National Park Service scope of work, were taken using metric units. In order to maintain consistency throughout this research, all measurements are provided using metric units and Table 1 provides conversions to English measures. The only exception is the contours on site maps in feet, which are taken from United States Geological Survey maps.

These investigations incorporated a review of

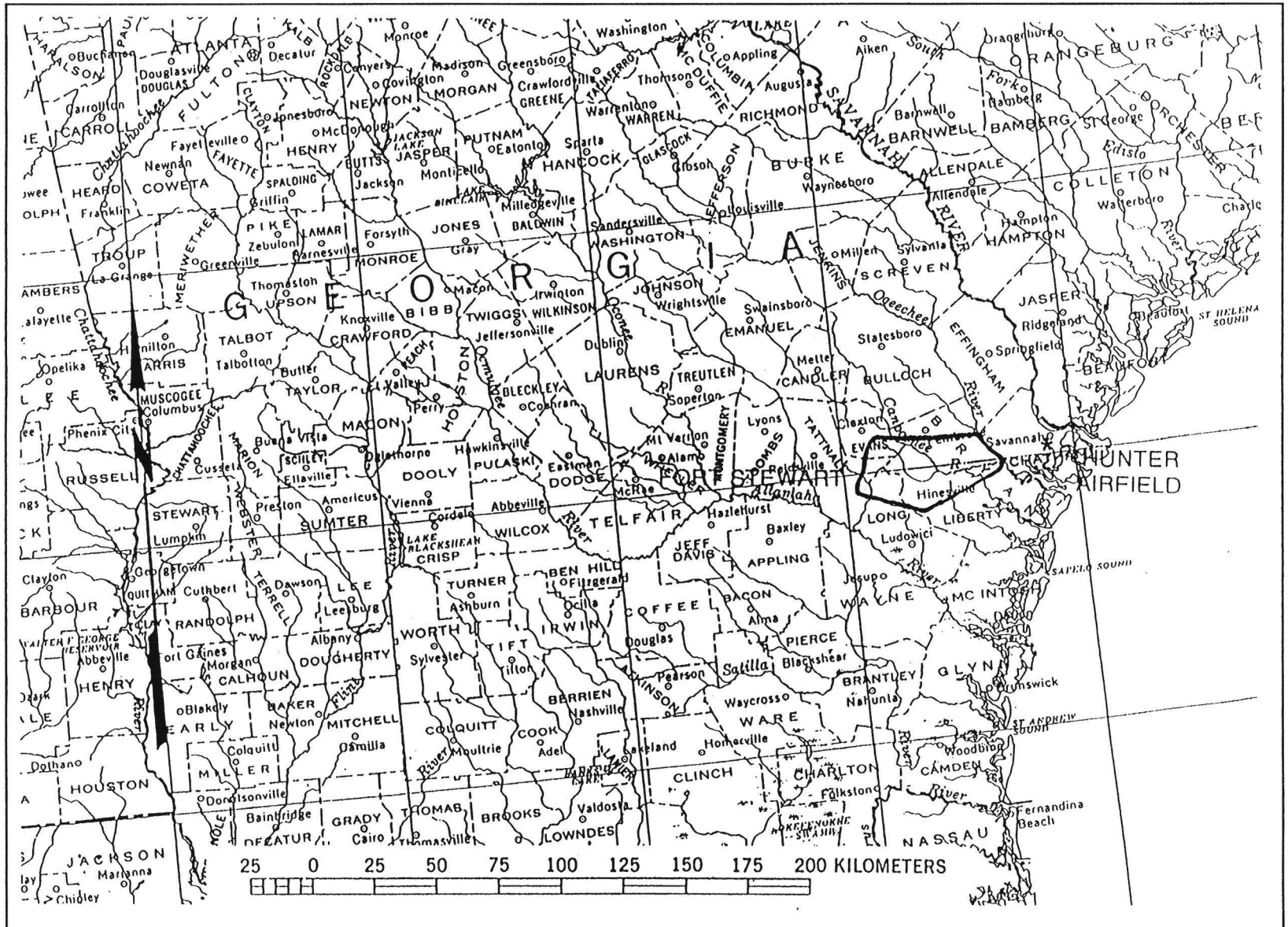

Figure 1. Location of Fort Stewart and Hunter Army Airfield in Coastal Georgia (base map is USGS United States 1972, 1:2,500,000).

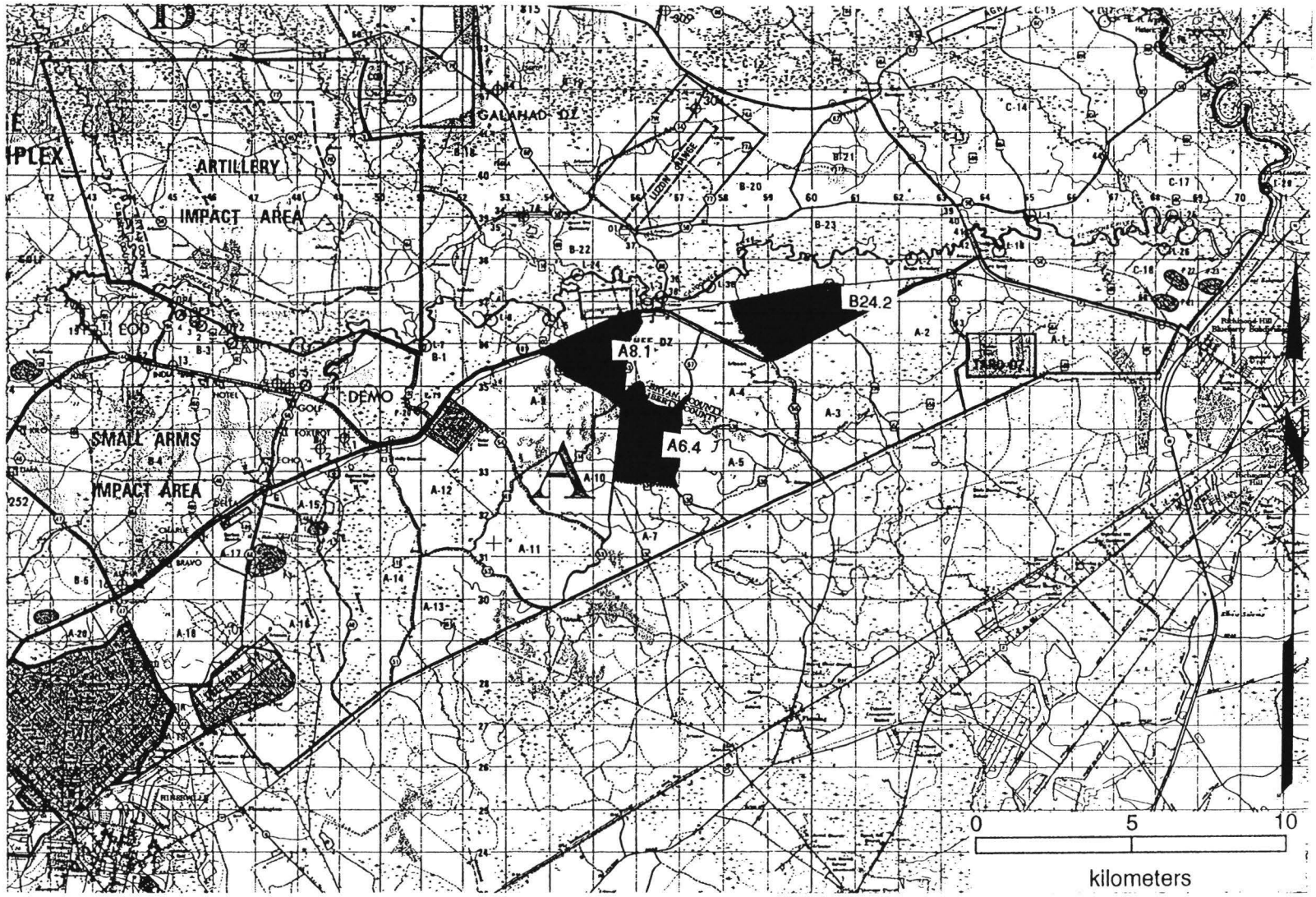

Figure 2. Location of survey tracts NRMU A6.4, A8.1, and B24.2 in Bryan and Liberty Counties, Georgia (base map is Fort Stewart Military Installation Map, 1992, 1:50,000).

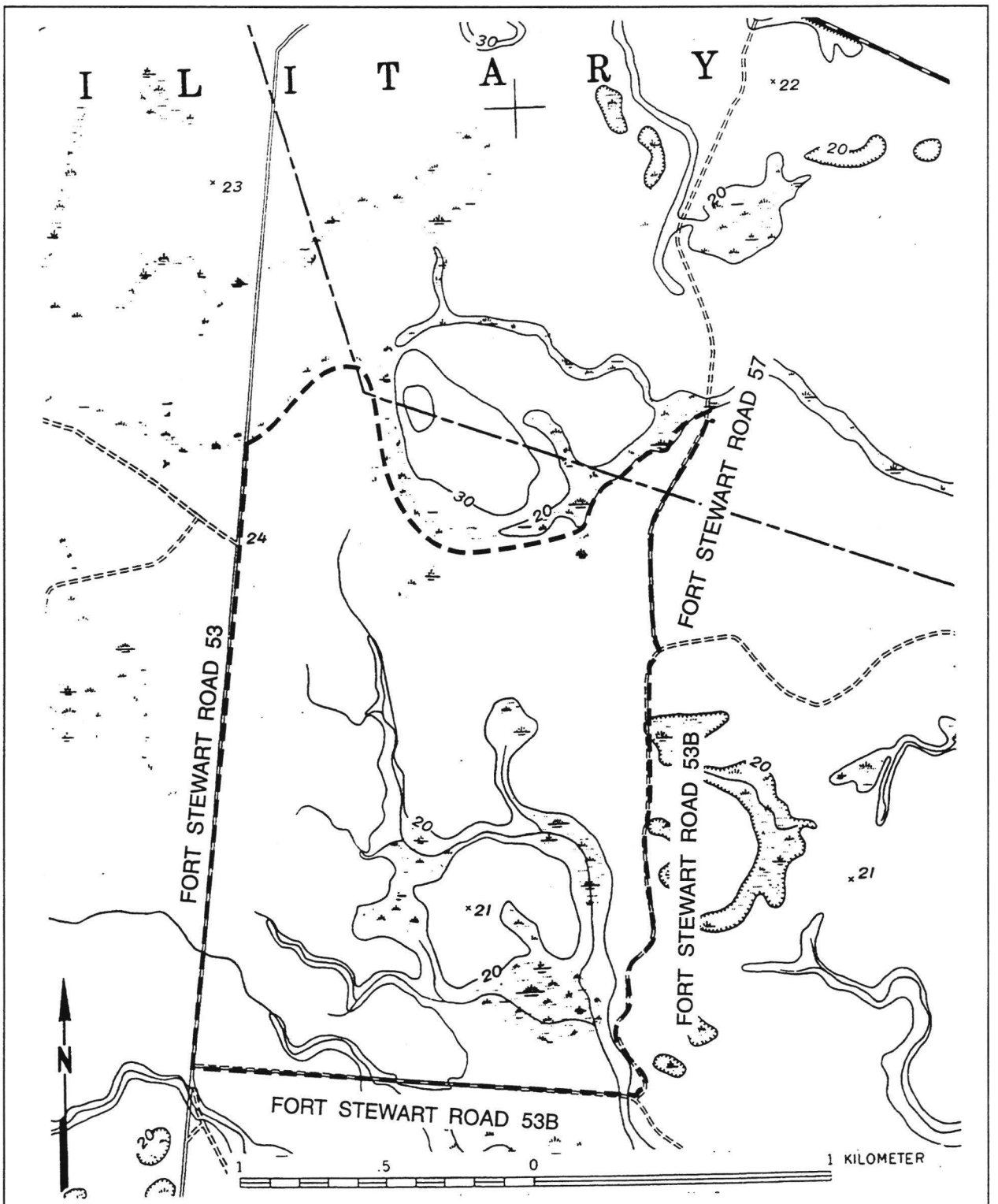

Figure 3. Survey tract NRMU A6.4 , showing boundaries and major roadways (base map is USGS Limerick NW, 1958PR1973, 1:24,000).

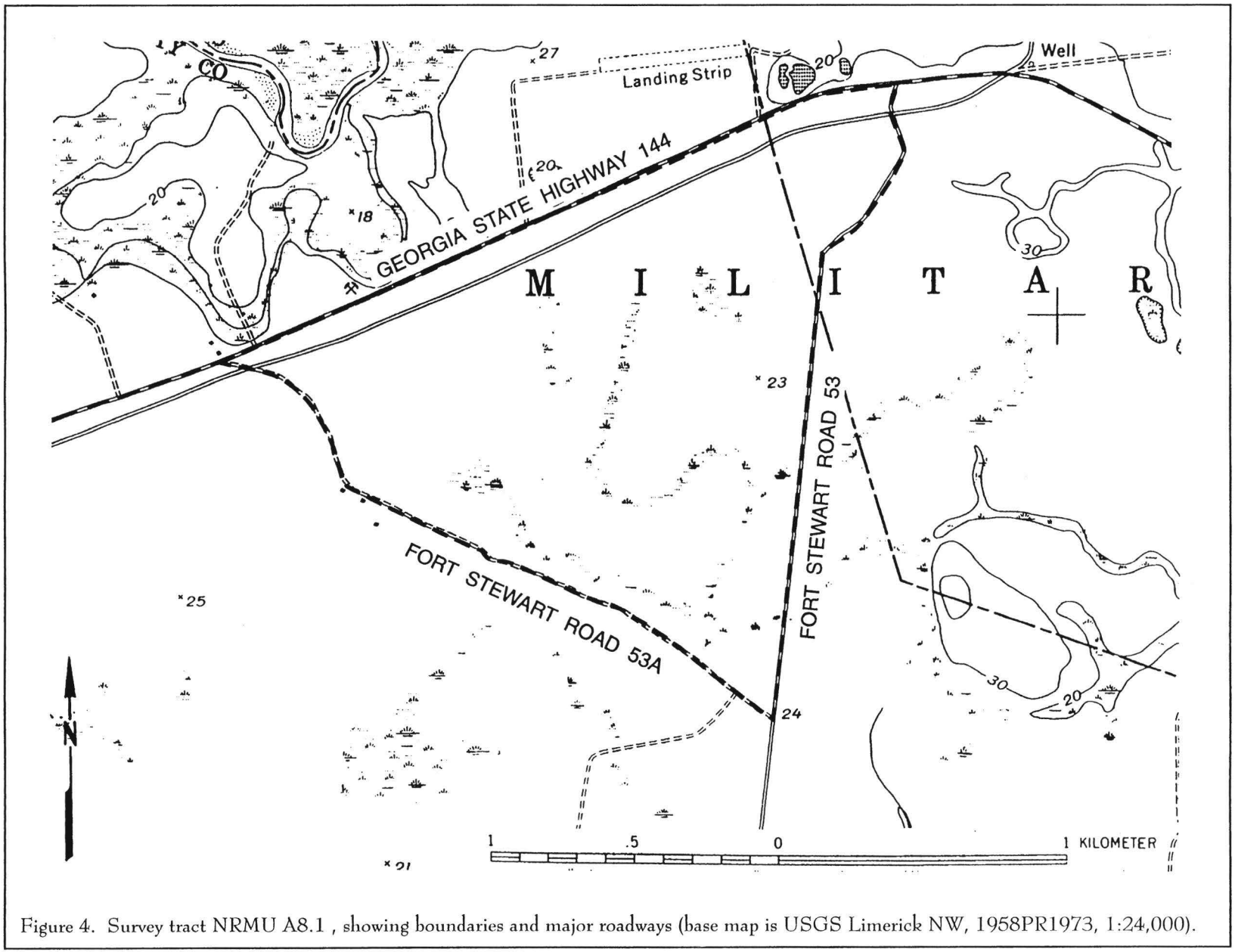

Figure 4. Survey tract NRMU A8.1 , showing boundaries and major roadways (base map is USGS Limerick NW, 1958PR1973, 1:24,000).

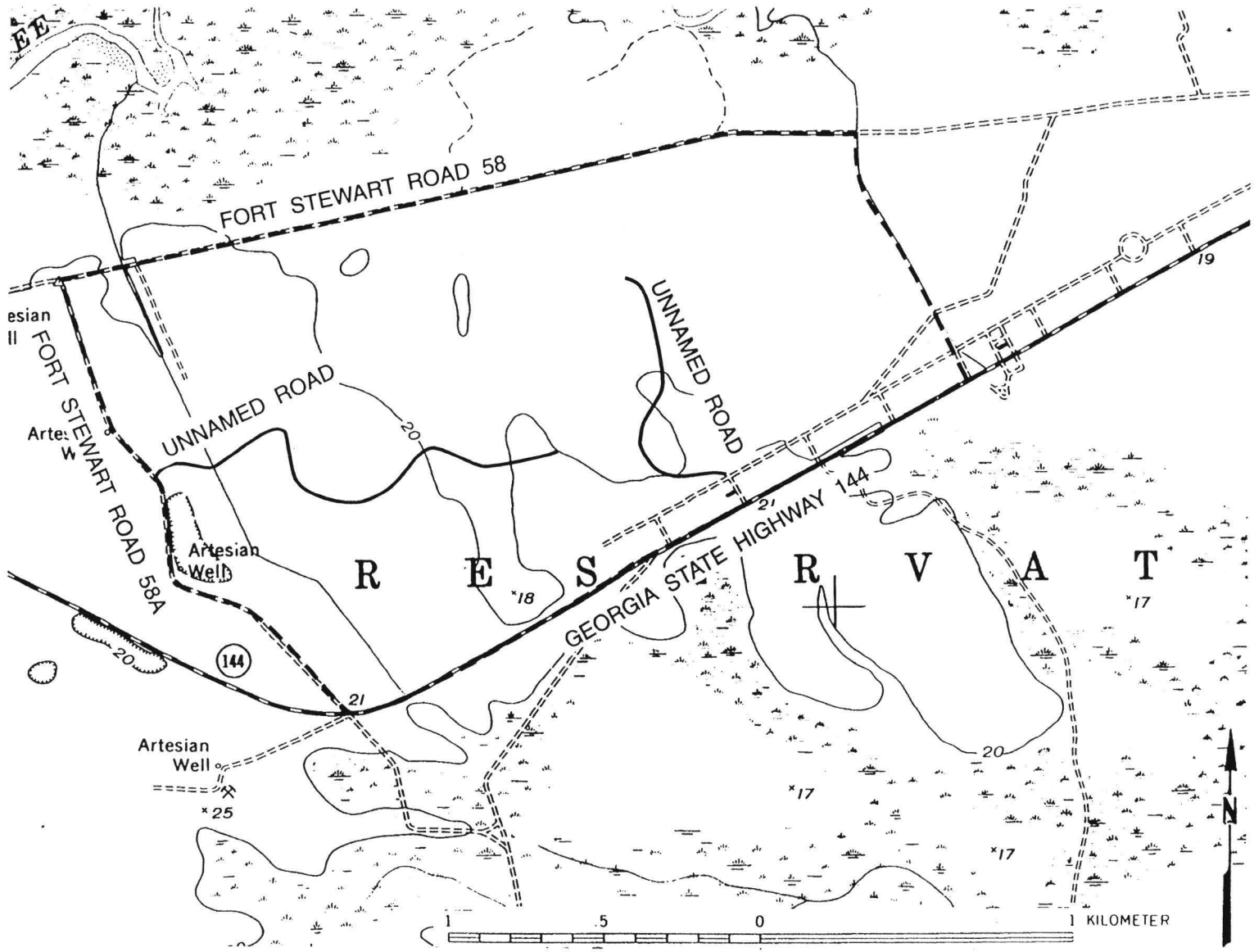

Figure 5. Survey tract NRMU B24.2, showing boundaries and major roadways (base map is USGS Limerick NW, 1958PR1973, 1:24,000).

Table 1.
Metric Equivalents

LENGTH		
kilometer	km	0.62 miles
meter	m	39.37 inches or 3.28 feet
centimeter	cm	0.39 inches
millimeter	mm	0.04 inches
AREA		
hectare	ha	2.47 acres
square km	km^2	0.3861 square miles
WEIGHT		
metric ton	t	1.1 English tons

TEMPERATURE

C to F = (C° x 1.8) + 32 = F°

sites which might be found in the three survey tracts. Only one tract, NRMU B24.2, included previously recorded resources. Site 9BN113 was first recorded by Fort Stewart's Consulting Archaeologist David McKivergan of Bregman and Company, Inc. This site report is on file with the Georgia State Archaeological Site Files, located in Athens, Georgia.

Historic background research was also conducted at the archives maintained by consulting archaeologist Mr. David McKivergan at Fort Stewart. Published reports regarding previous surveys were also consulted.

A total of five sites and four isolated occurrences were identified in the survey tracts. The isolated finds include two prehistoric occurrences and two historic occurrences. All of the archaeological resources are historic sites, one of which was previously recorded (9BN113). No sites were found in survey tract NRMU A6.4, and only two were recorded in NRMU A8.1, including an isolated prehistoric find and a historic site. Survey tract B24.2 contained seven sites and finds, including the Roding Range, a World War II antiaircraft range. The other six archaeological resources included three historic sites, an isolated prehistoric find and two isolated historic finds.

Of the archaeological sites identified, only one is recommended as indeterminate (potentially eligible) for inclusion on the National Register of Historic Places. This site, the historic Rodding Range, has not been previously recorded, but is mentioned in the Fort Stewart Historic Preservation Plan. The range extends into areas outside of the survey boundary, and as a result, the current investigation only hints at the site's extent and potential significance. The remainder of the sites and isolated occurrences are recommended as not eligible.

All of the historic sites contained artifacts dating from the mid-nineteenth to the early twentieth centuries. The isolated prehistoric occurrence in B24.2 most likely dates to the Early Archaic period. The isolated prehistoric site in A8.1 did not contain any temporally diagnostic artifacts.

Surveys were conducted from November 16, 1998 to December 18, 1998. Principal Investigator for the project was Dr. Michael Trinkley and Field Director for the project was Ms. Rachel Campo. Field crew consisted of Ms. Kerri Barile, Mr. Scott Brish, Mr. Bradd Bunce, Ms. Katherine Carr, Ms. Bonnie Frick, Ms. Elizabeth Fuller, Mr. Todd Hejlik, Mr. Rick Hill, and Mr. Sean Norris.

Curation

Archaeological site forms have been filed with the Georgia Archaeological Site Files. The field notes, photographic materials, artifact catalogs, and artifacts resulting from these investigations have been curated at Fort Stewart using their accessioning and cataloging system. The materials were assigned accession number 41. All records and duplicate copies have been provided to Fort Stewart and will be maintained by that institution in perpetuity.

NATURAL SETTING

Physiography and Drainage

Fort Stewart, which encompasses about 103,550 ha, forms a roughly rectangular shape measuring about 32 km north-south by about 56 km east-west. The fort's most distinctive feature is perhaps its lack of relief. Elevations range from about 50 m in the west to about 3 m in the east.

Located entirely within the Coastal Plain Province on the southeastern Atlantic coast of Georgia, this area is often referred to as the Atlantic Coast Flatwoods (Looper 1982:66). The coastal plain is best known for its featureless plains and marshes in the east. The flatwoods are characterized by their nearly level topography and poorly drained soils. The mostly sandy loam to sandy topsoils are underlain by marine sands, loams, or clays. The soils generally have high water tables and are often found to be unsuitable for a broad range of residential and industrial activities (Hodler and Schretter 1986:36). The area is also characterized by inlets and creeks draining an extensive system of drowned river systems and shallow marsh-filled coastal lagoons. The topography consists of subtle undulations in the landscape revealing the ridge and bay topography of the beach ridge plains (Mathews et al. 1980:137).

Fort Stewart is largely confined to what is often called the Barrier Island District — an area of slight to moderate dissection created by the advance and retreat of former sea levels. As a result, there are six shoreline deposit complexes found parallel to the coastline in a step-like progression of decreasing elevations. This dissection has also resulted in marshes that exist in poorly drained lowlands. To the northwest are the Vidalia Uplands, a moderately dissected upland with a well developed dendritic stream pattern based on gravelly, clayey sands. The floodplains are typically narrow, except along the major rivers where wider, bordering swamps are often found (Hodler and Schretter 1986:17).

A number of relatively small streams and creeks, which are part of the Ogeechee River drainage system, make up Fort Stewart's drainage pattern. The Canoochee River is the main drainage for the post and flows west to east through the center of the reservation. A number of smaller tributaries such as Canoochee, Taylors, and Savage creeks flow into the Canoochee River. The eastern boundary of Fort Stewart is defined by the Ogeechee River (Figure 6).

Survey tracts NRMU A6.4 and A8.1 lie south of Georgia State Highway 144 and east of Georgia State Highway 119. Survey tract NRMU B24.2 is situated north of Georgia State Highway 144 and east of Georgia State Highway 119.

Watersheds in the tract situated north of Georgia State Highway 144 and east of Georgia State Highway 119 drain into the Canoochee Creek or into Taylors Creek. Watersheds in survey tracts NRMU A6.4 and A8.1 drain primarily into Raccoon Branch, which empties into the Jerico River. In B24.2, watersheds drain to Canoochee Creek.

Modifications to the physical landscape in most of the survey areas are minimal. The majority of landscape changes have been produced by floods that deposited alluvial soils, and the introduction of pre-World War II farm machinery. In general, only along the interior base roads are there major landscape modifications, produced by heavy machinery and military vehicles (see Trinkley et al. 1997:11), which range in severity. Modifications in the three survey tracts include the construction of borrow pits (Figure 7), ponds, firebreaks, roads, and canals (Figure 8).

Geology and Soils

The surface geology of Fort Stewart is dominated by sediments of Quaternary age (Hodler and

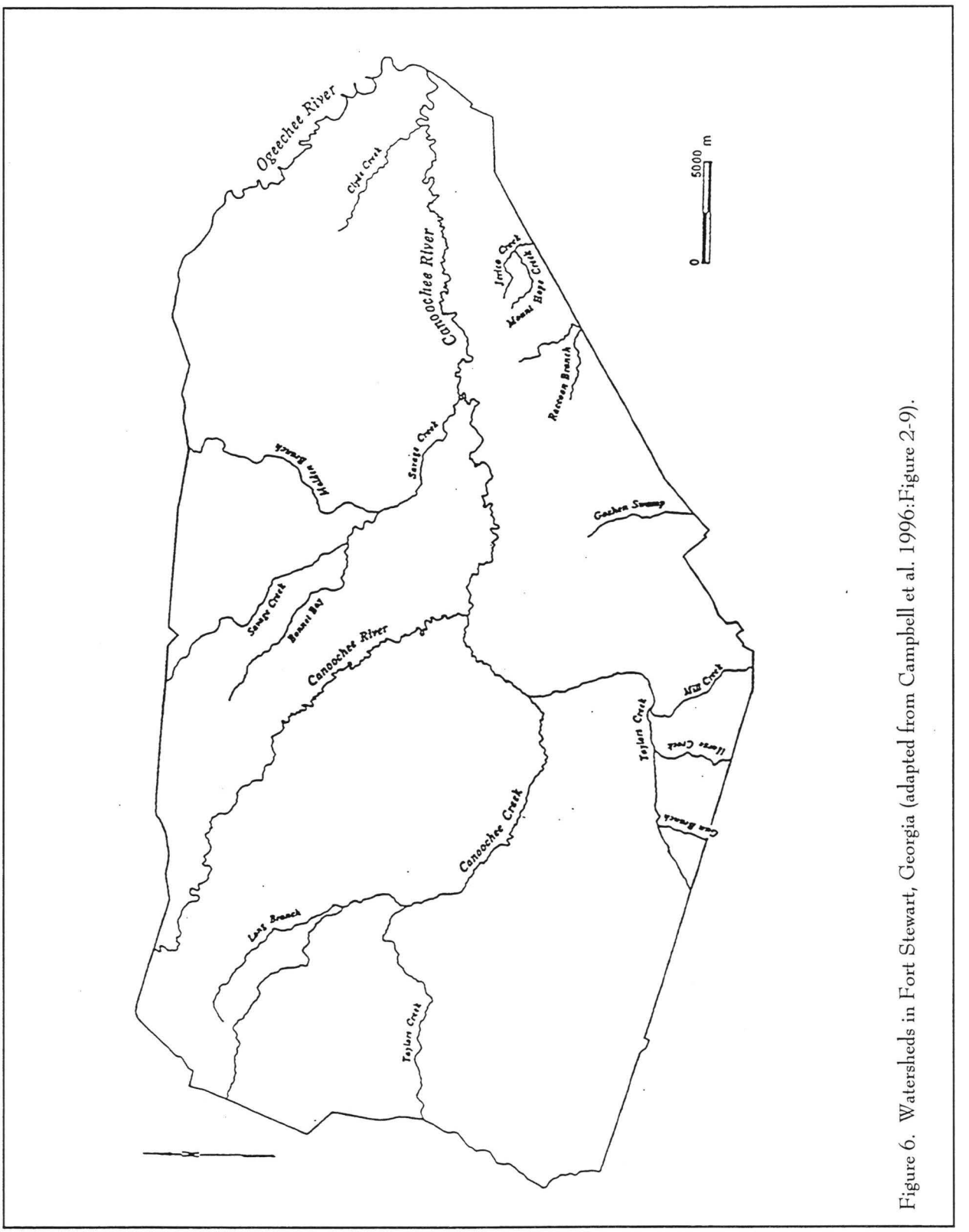

Figure 6. Watersheds in Fort Stewart, Georgia (adapted from Campbell et al. 1996:Figure 2-9).

Figure 7. View of borrow pit in NRMU B24.2, view to the southwest.

Schretter 1986:12-13). Sand, silts, and clays originally derived from the Appalachian Mountains and the interior Piedmont are organized into coastal fluvial and aeolian deposits which virtually blanket the Coast. These sediments were transported seaward and deposited during the Quaternary period. Underlying the surface sediments are bedrock sedimentary strata of Tertiary and Mesozoic age which are almost uniformly eroded and variously lithified (Mathews et al. 1980:2). The Mesozoic and Tertiary sedimentary rocks are infrequently exposed, usually in river banks and bottoms, in deep tidal channels, and in man-made quarries.

Of perhaps greatest significance in this discussion of coastal geology is an overview of chert resources. While agate, chalcedony, and jasper were also used by prehistoric groups, these materials occur in Georgia in very small amounts (Ledbetter et al. 1981:1-2), especially when compared to chert (Goad 1979:2). Chert, on the other hand, while occurring discontinuously, is present throughout the Coastal Plain, primarily associated with Paleozoic and Tertiary Period limestones. Depending on the various chemical impurities, Georgia chert ranges in color from black or brown to white, yellow, gray, and cream . Some cherts are fossiliferous.

While the Piedmont contributes a broad range of volcanic and metavolcanic materials important to prehistoric occupants, and may even contribute small quantities of jasper-like and agate material (Goad 1979:5), chert is found primarily in the Ridge and Valley Province in the extreme northwestern corner of the state and the Coastal Plain. Ledbetter and his colleagues note that chert-like materials may also occur "spottily" in the 20 km wide "hinge zone" between the Towaliga-Hartwell Fault and the Middleton Lowndesville Fault in the Inner Piedmont of Georgia (Ledbetter et al. 1981:6).

Goad reports that the major occurrences of chert in the Georgia Coastal Plain are found associated with Tertiary Period formations, primarily from Eocene

and Oligocene Epoch deposits. Goad (1979:19) observes that, "the major occurrences of Coastal Plain chert are in southwestern Georgia, west of the Flint River, along the Fall Line, and in southeast Georgia along the Savannah River below Augusta."

Coastal Plain chert may be found as residual nodules and boulders, scattered along streams and ridges, or as cropping beds. Goad notes that different strata have recognizable chert forms, although the great range in variation among Coastal Plain chert makes the identification of specific point sources more difficult and less reliable than the identification of chert sources in the Ridge and Valley province (Goad 1979:24).

Sources have been identified from Baker, Bibb, Burke, Calhoun, Crisp, Decatur, Dooly, Dougherty, Early, Grady, Houston, Jefferson, Laurens, Lee, Macon, Miller, Mitchell, Pulaski, Randolph, Richmond, Screven, Seminole, Stewart, Sumter, Thomas, Twiggs, Quitman, Washington, and Worth counties (Goad 1979:81-88). The closest sources to Fort Stewart are found in Bulloch County, about 50 km north of the study area. This chert, which has a dull luster and is grainy, ranges in color from black or tan to red, yellow, cream and white. The chert is fossiliferous and, when heated, resembles the Claiborne Stage cherts (described below) in color and texture. Other cherts include dark grays, slate blacks, clears, creams, browns, whites, and blue-whites or mottled colors, and textures can range from smooth to grainy. All are fossiliferous with a dull, soft luster. Heat treatment produces a glossy surface with yellow to dark red colors (Goad 1979:23-24).

In nearby Burke County, cherts are associated with Claiborne Group deposits from the Eocene Epoch. These cherts range in color from red, yellow, cream, and blue to mottled or striped. They typically have a dull sheen and are heavily fossiliferous. When heat treated the material turns to pink, dark red, or even bright orange. The fossil inclusions turn white, giving the chert a "spotted" appearance. Porous flints, jasper, and chalcedony are also present with the cherts in these

Figure 8. View of canal in NRMU B24.2, view to the south.

Table 2.
Soil Series in all Survey Tracts***

Soil Series	Drainage	Water Table	A Horizon	B Horizon
Albany	somewhat poor	30-76 cm	0-1.24 m, loamy fine sand to fine sand	1.24-1.78 m, clay to sandy clay
Bayboro	very poor	< 15 cm	0-28 cm, loam	28 cm-1.78 m, clay to sandy clay
Bibb	poor	15-45 cm	0-33 cm, sandy loam	*33 cm-1.65 m, sandy loam
Cape Fear	very poor	surface	0-41 cm, fine sandy loam to loam	41 cm-1.3 m, clay loam, sandy clay loam, sand
Craven	moderately well	n/a	0-31 cm, loamy fine sandy loam, loamy fine sand	31 cm-1.9 m, sandy clay, sandy clay loam, sandy loam
Ellabelle	very poor	<15 cm	0-58 cm, loamy sand	58 cm-1.83 m, sandy loam to sandy clay loam
Johnston	very poor	<46 cm	0-1.09 m, mucky loam	*1.09-1.52 m, sandy loam
Mandarin	somewhat poor	46 cm-1 m	0-31 cm, fine sand; and 61-91 cm, fine sand	31-61 cm, fine sand; and 91 cm-1.83 m, fine sand
Mascotte	poor	surface-<31 cm	0-36 cm, fine sand; and 53-81 cm, fine sand	36-53 cm, fine sand; and 81 cm-1.78 m sandy clay loam
Ocilla	somewhat poor	30-76 cm	0-86 cm, loamy fine sand	86 cm-1.83 m, sandy loam to sandy clay loam
Ocilla**	somewhat poor	38-76 cm	0-56 cm, loamy fine sand, fine sand	56 cm -1.5 m, sandy clay loam
Ogeechee	somewhat poor	<30 cm	0-20 cm, loamy fine sand	20 cm-1.5 m, sandy clay loam to sandy clay
Pelham clay	poor	15-46 cm	0-64 cm, loamy sand	64 cm-1.60 m, sandy loam to sandy loam
Pooler	poor	< 30 cm	0-13 cm, fine sandy loam	13 cm-1.42 m, sandy clay to sandy clay loam
Wahee	somewhat poor	15-46 cm	0-36 cm, sandy loam	36 cm-1.91 m, sandy clay loam to clay

*Represents C Horizon, no B Horizon present
**Represents Ocilla soils in Bryan County.
***Adapted from Looper 1982 and Wilkes et al. 1974.

deposits (Goad 1979:21).

Chert sources from the Oligocene Epoch occur in Laurens County, about 150 km to the northwest of the project area. This chert is typically dense and compact, vitreous, and ranges in color from translucent to red, yellow, or brown, with few fossil inclusions. Heat treated specimens are typically glossy

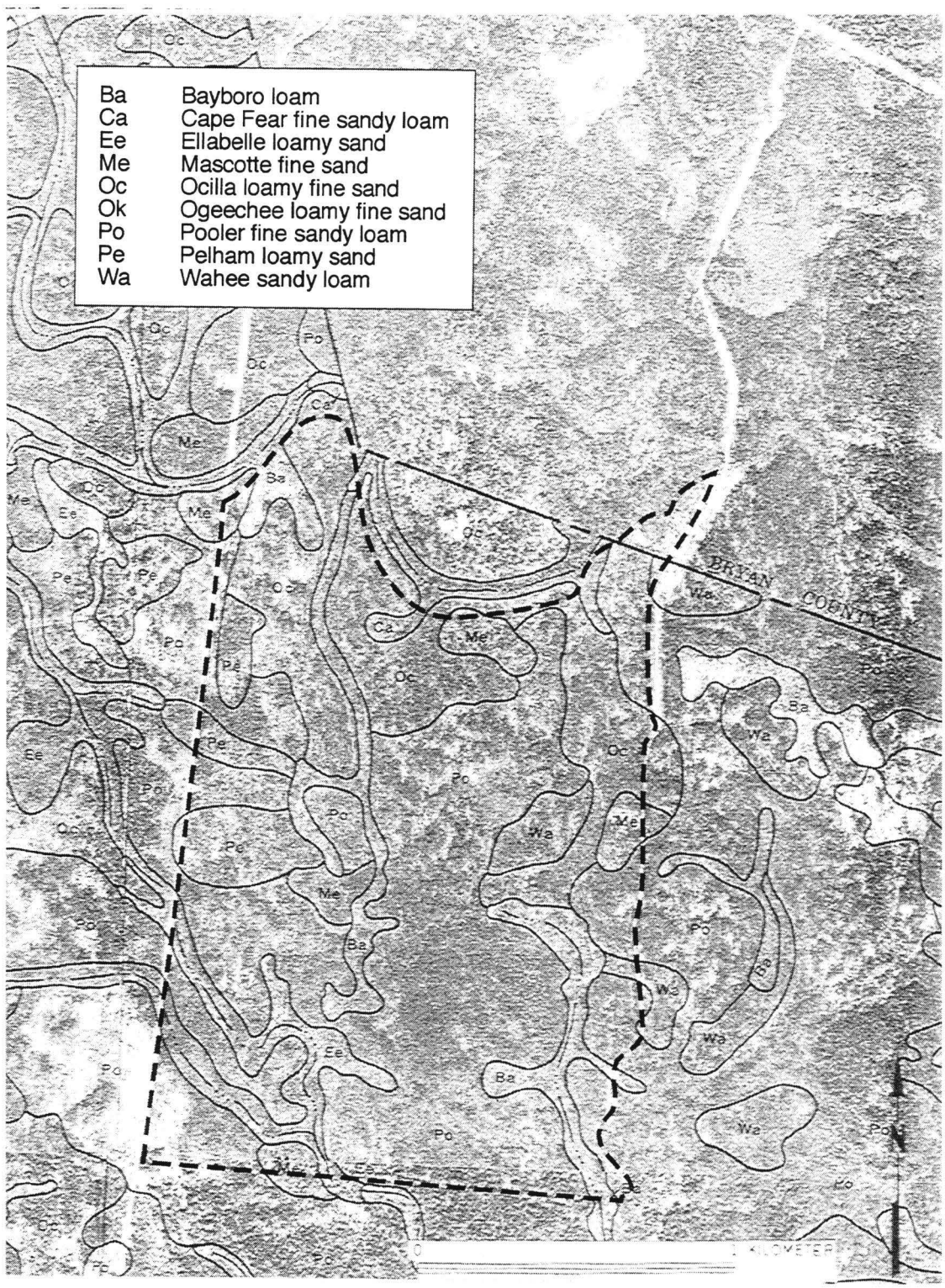

Figure 9. Soils in NRMU A6.4 (adapted from Looper 1982: Maps 14 and 20).

and red or deep brown. Occasional jasper nodules are associated with this chert (Goad 1979:24).

The geomorphology of the area is greatly influenced by the raising and lowering of sea level during the Pleistocene and Holocene epochs, when glaciers repeatedly advanced and retreated in the northern portions of the United States. While these ice masses did not extend southward to Georgia, they nevertheless dramatically affected the area's geology by influencing the ocean levels which generated a series of marine terraces (Hodler and Schretter 1986:27; Looper 1982:2-3; Campbell et al. 1996:19). Fort Stewart incorporates portions of the Sunderland, Wicomico, Penholoway, Talbot, and Pamlico marine terraces which range in elevation from 52 m above mean sea level (AMSL) to 8 m AMSL (Hodler and Schretter 1986:27; Campbell et al. 1996:19-22).

Today, modern soil science identifies 11 general soil units in Liberty County and 13 in adjacent Bryan County. Overall, the soil profiles in these counties exhibit characteristics that reflect "moderately well drained and somewhat poorly drained soils on ridges, and poorly drained and very poorly drained soils on flood plains and in broad low areas, depressions, marshes, and drainageways" (Looper 1982:1).

These general soil units are further divided into soil series, which consist of soils with similar profiles and major horizons. Soil series are then divided into several soil phases, such as Pooler sandy loam (Paulk 1980:14). The soil series described by Looper (1982) and Wilkes et al. (1974) are examples of typical soils in that series, including a discussion of the depths, hues, values and chromes for each horizon. The horizons discussed by Looper and Wilkes et al. are limited to the A and B horizons of a soil series. A horizons represent the top layer of soil that is generally dark and has high amounts of organic material. B horizons represent the horizon under A that is a mineral zone, developed from unaltered parent material, or C horizon, and the bedrock, or R horizon (Rapp and Hill 1998:31). A brief description of soil series, based on discussion by Looper and Wilkes et al., located in the survey tracts is found in Table 2. Soil series will be discussed below for each survey tract. The following paragraphs will address the soils in each survey tract, with particular attention given to the percentages of soil types and draining characteristics present in each tract.

Survey tract **NRMU A6.4** consists of Bayboro, Cape Fear, Ellabelle, Mascotte, Ocilla, Pelham, Pooler, and Wahee soils (Figure 9). These soil series have water tables that occur from less than 15 cm to 76 cm (Table 2). These soils can not be generalized , but represent a range of loams to sandy clays (Table 2).

Pooler fine sandy loam, a poorly drained soil, represents the greatest percentage of soil types in NRMU A6.4 at 52% of the total soils (Table 3). Ocilla loamy fine sand and Bayboro loam also contribute a large percentage to the total soils in NRMU A6.4 at 21% and 11%, respectively. Pooler fine sandy loam is frequently ponded from late fall to mid-spring, and is unsuitable for farming due to the excessive wetness of the soils (Looper 1982: 34). More than half of the total soils in NRMU A6.4 are poorly drained soils, with the remainder of the soils representing somewhat poorly and very poorly drained soils (Table 4).

Table 3
Soil Types by Percentage in NRMU A6.4

Soil Type	Percentage
Pooler fine sandy loam	52%
Ocilla loamy fine sand	21%
Bayboro loam	11%
Ellabelle loamy sand	5%
Pelham loamy sand	4%
Mascotte fine sand	3%
Wahee sandy loam	2%
Cape Fear fine sandy loam	1%
Ogeechee loamy fine sand	1%

In this survey tract, Bayboro, Ellabelle, Mascotte, and Pooler soils, which range from very poor to somewhat poorly drained, were designated as low probability areas, accounting for 154.9 ha. These soils

Table 4.
Percentages of Drainage Characteristics in NRMU A6.4

Drainage Characteristic	Percentage
Poor	59%
Somewhat poor	23%
Very poor	18%

generally have water tables that range from less than 15 cm to less than 30 cm during the winter and spring seasons (Table 2). High probability soils included Bayboro, Cape Fear, Mascotte, Ocilla, Ogeechee, Pelham, Pooler, and Wahee soils, accounting for 143.2 ha. These soils range in drainage from very poor to somewhat poor, and the water table occurs from less than 15 cm to 31 cm (Table 2). In NRMU A6.4, areas that are normally wet were dry during this season, including a drainage of the Racoon Branch that runs through most of the survey tract. These seasonally dry areas were apparent by the water lines on trees and scorched appearance of the ground cover.

Bayboro, Cape Fear, Ellabelle, Johnston and Bibb, Mandarin, Mascotte, Ocilla, Ogeechee, Pelham, Pooler, and Wahee soils are present in survey tract NRMU A8.1 (Figure 10). In general, these soils have water tables that range from the surface to 1 m below the surface (Table 2). These soils range from loams, to sandy clays.

Table 5.
Soil Types by Percentage in NRMU A8.1

Soil Type	Percentage
Pooler fine sandy loam	41%
Ocilla loamy fine sand	28%
Bayboro loam	14%
Mandarin fine sand	3%
Mascotte fine sand	3%
Pelham loamy sand	3%
Wahee sandy loam	3%
Ellabelle loamy sand	2%
Johnston and Bibb soils	2%
Cape Fear fine sandy loam	1%

Pooler fine sandy loam accounts for 41% of the soils in NRMU A8.1 (Table 5), and is recognized as unsuitable for farming due to the wetness of the soil (Looper 1982:32-33). Ocilla loamy fine sand and Bayboro loam also contribute high percentages to the total soils in NRMU A8.1 at 28% and 14%, respectively. A high water table for both Bayboro and Ocilla soils limits vegetation growth that is not tolerant of wet conditions (Looper 1982:20, 32-33).

Almost half of the soils in NRMU A8.1 are poorly drained soils, while the remainder of the soils are very poorly to somewhat poorly drained soils (Table 6). High probability soils in NRMU A8.1 include Bayboro, Cape Fear, Ellabelle, Johnston and Bibb, Mascotte, Mandarin, Ocilla, Pelham, and Pooler soils,

Table 6.
Percentages of Drainage Characteristics in NRMU A8.1

Drainage Characteristic	Percentage
Poor	48%
Somewhat poor	35%
Very poor	17%

Table 7.
Soil Types by Percentage in NRMU B24.2*

Soil Type	Percentage
Ogeechee loamy fine sand	40%
Wahee sandy loam	27%
Ocilla complex	14%
Cape Fear sandy loam	12%
Craven loamy fine sand	4%
Albany fine sand	2%
Ellabelle loamy sand	1%

*Pooler soils represent less than one hectare of the total soils and are not included in these percentages.

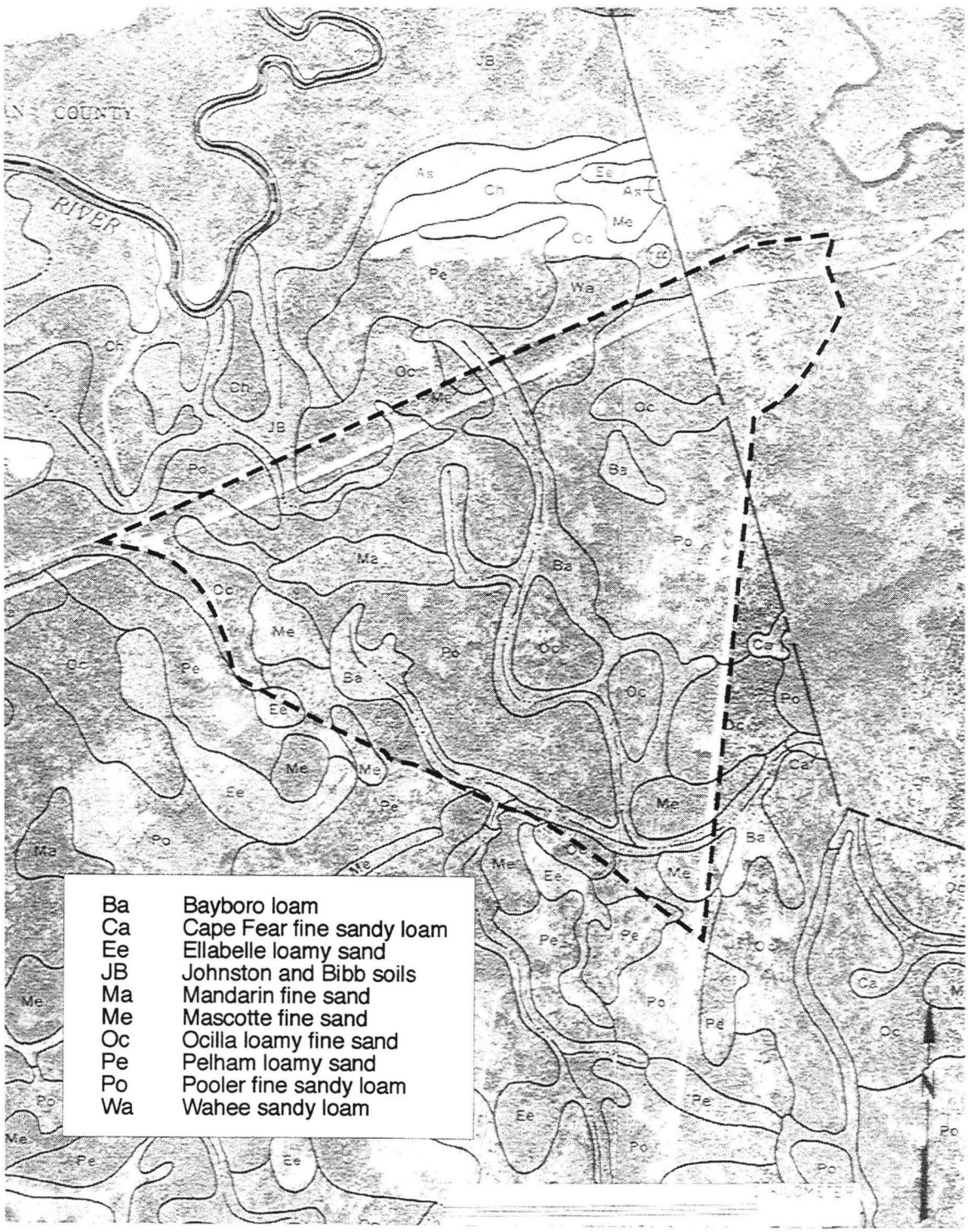

Figure 10. Soils in survey tract NRMU A8.1 (adapted from Looper 1982:Map 14)

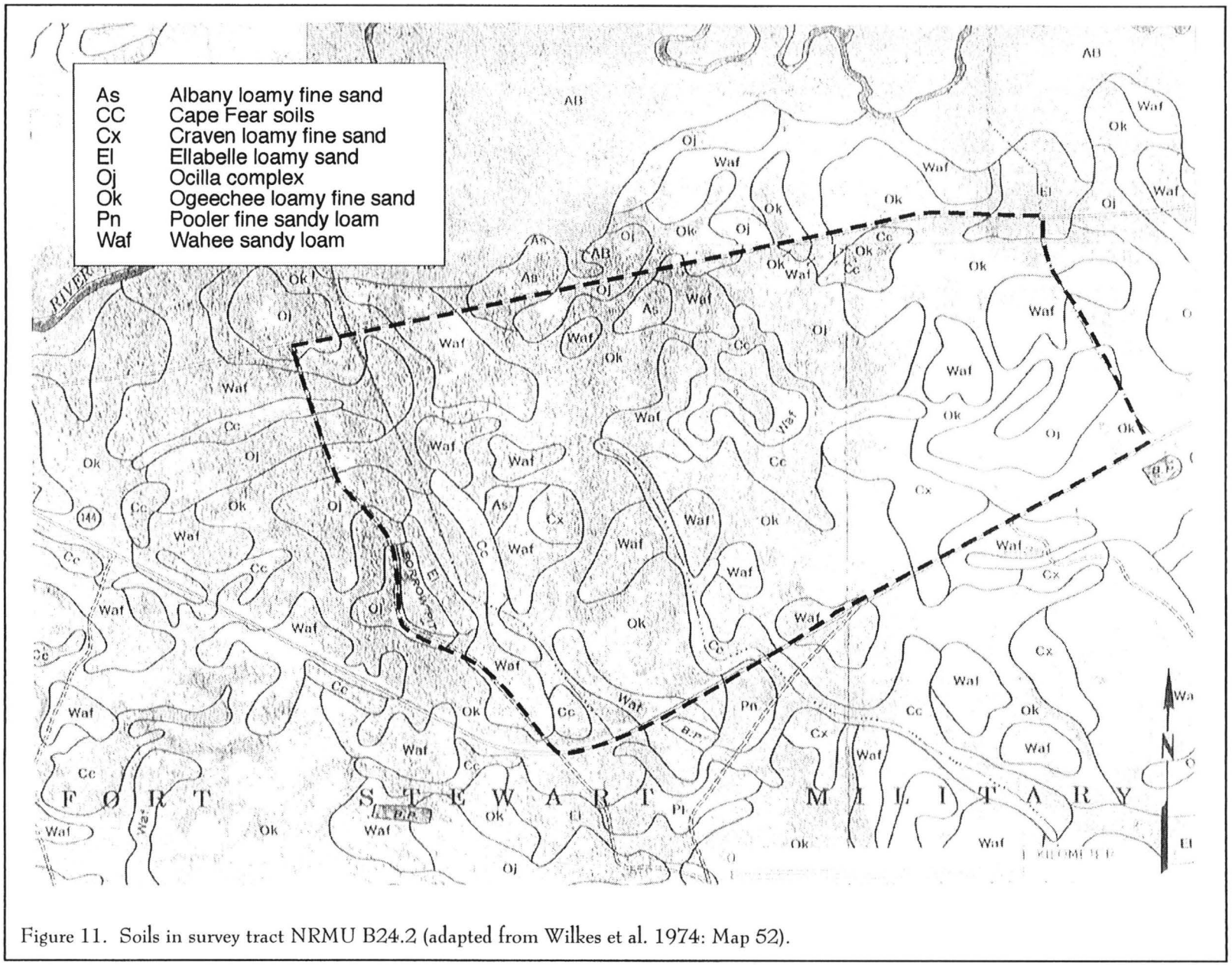

Figure 11. Soils in survey tract NRMU B24.2 (adapted from Wilkes et al. 1974: Map 52).

accounting for 136.9 ha. Water tables for these soils generally range from less than 15 cm to 1 m below the surface. Low probability soils include Bayboro, Ellabelle, Mascotte, Ogeechee, and Pooler soils, which account for 102.2 ha of the survey tract. These low probability soils have water tables that range from less than 15 cm to less than 30 cm below the surface.

In survey tract NRMU B24.2, Albany, Cape Fear, Craven, Ellabelle, Ocilla, Ogeechee, Pooler, and Wahee soils contribute to the overall soil makeup of the survey tract (Figure 11). Ogeechee loamy fine sand represents 40% of the total soils, while Wahee sandy loam accounts for 27% of the soils (Table 7). Ogeechee soils can be well suited to corn and other cultivated crops if adequately drained (Wilkes et al. 1974:29). Wahee soils are well suited to crops such as corn, soybeans, rye and oats (Wilkes et al. 1974:29).

Over 80% of the soils in NRMU B24.2 are somewhat poorly drained, with the remainder of the soils representing very poorly and moderately well drained soils (Table 8). High probability soils include Albany, Cape Fear, Craven, Ocilla, Ogeechee, Pooler, and Wahee soils, accounting for 251 ha. These soils have water tables that occur from less than 15 cm below the surface to 76 cm below the surface, and represent a range soil types including fine sandy loams, sandy clays, and loams. Ellabelle soils are the only low probability soils present in NRMU B24.2 and account for 6 ha. The water table for Ellabelle soils occurs at less than 15 cm below the surface and the soils are loamy sands, sandy loams and sandy clay loams.

Table 8.
Drainage Characteristics by Percentage in NRMU B24.2

Drainage Characteristic	Percentage
Somewhat poor	83%
Very poor	13%
Moderately well	4%

Soils and Site Locations

According to the *Fort Stewart and Hunter Army Airfield Historic Preservation Plan,* survey areas are designated as very high probability, high probability, medium probability or low probability (Campbell et. al 1996:202). The criteria for probability designations can be found in the *Fort Stewart and Hunter Army Airfield Historic Preservation Plan* (Campbell et al. 1996:203). In general, the probability areas are based on the tract's proximity to rivers and streams, and the type of soil drainages in the tract.

Survey tracts in this project were divided into high and low probability areas, and appropriate field methodology was employed in these areas, as discussed in the preceding chapter. The use of high and low probability areas is especially well suited for work at Fort Stewart, which includes many soils of poor drainage. However, high and low probability areas were not always obvious in the field, due to the undifferentiated vegetation, topography, and soil drainage of high and low probability areas.

Predictive modeling for Fort Stewart suggests that sites will be located in certain high probability soils, many of which are somewhat poorly drained to well drained (Campbell et al. 1996:209). A draft for a revised predictive model for the post examines the predictive model from the *HPP* based on 38,000 acres of archaeological survey (McKivergan 1998). The revised predictive model considers the probability of locating sites at specific distances from water, and the probability of locating sites on certain soil types. McKivergan (1998) notes that distance to water is not a practical model, as almost a third of the post contains surface water. Based on data from these archaeological surveys, soils are classified as having a high, indeterminate, or low probability of containing archaeological sites. High probability soils have a higher ratio of observed sites than expected sites, those with a ratio higher than 1.00. Indeterminate soils have a ratio of 1.00 observed to expected sites. Low probability soils have a ratio of less than 1.00 observed to expected sites.

Table 9 lists all sites located, the associated soils of the sites, the soils' drainage, the probability designation, and the water table depth associated with the soils. The probability listed is taken from McKivergan 1998, and in some cases differs from the

Table 9.
Sites, Soils, and Drainage in the Survey Tracts

Site #	Type	Soil	Drainage	Probability *	Water Table
		Survey Tract NRMU A8.1			
9LI420	Isolated prehistoric find	Ocilla loamy fine sand	Somewhat poorly drained	High (High)	30-76 cm
9LI422	Historic site	Pooler fine sandy loam	Poorly drained	Low (Low)	<30 cm
		Survey Tract NRMU B24.2			
9BN186	Historic site	Ocilla complex	Somewhat poorly drained	High (High)	15-30 cm
		Ogeechee loamy fine sand	Somewhat poorly drained	Low (High)	surface
		Wahee sandy loam	Somewhat poorly drained	Indeterminate (High)	15-46 cm
		Craven loamy fine sand	Moderately well drained	Indeterminate (High)	n/a
9BN185	Isolated historic find	Craven loamy fine sand	Moderately well drained	Indeterminate (High)	n/a
9BN113	Historic site	Craven loamy fine sand	Moderately well drained	Indeterminate (High)	n/a
9BN184	Isolated historic site	Ogeechee loamy fine sand	Somewhat poorly drained	Low (High)	surface
9BN183	Isolated prehistoric site	Ocilla complex	Somewhat poorly drained	High (High)	15-30 cm
9BN182	Historic site	Wahee sandy loam	Somewhat poorly drained	Indeterminate (High)	15-46 cm
9BN181	Historic site	Ogeechee loamy fine sand	Somewhat poorly drained	Low (High)	surface

*Probability designations used are from McKivergan 1998. Designations in parentheses indicate the probability of soils as surveyed in the field.

probability designations given to us for surveys. Out of 9 total sites recorded during this survey, three historic sites were located on soils designated as low probability soils by McKivergan (Table 9), and range from somewhat poorly drained to poorly drained. Site 9BN186, the Rodding Range, covers four different soil types, including high, low, and two indeterminate soils (Table 9). Three other historic sites were located on indeterminate probability soils, while two isolated prehistoric sites located on high probability soils (Table 9). Two of the indeterminate soils are moderately well drained, while the other is somewhat poorly drained. The high probability soils are both somewhat poorly drained. The water tables for the low probability sites occur either at the surface or less than 30 cm below the surface.

Table 10 lists the number and percentages of sites found in soil types in all survey tracts. Ogeechee and Craven series soils contain the largest percentages of sites in the three survey tracts, representing 50% of the total sites. These two soils are somewhat poorly drained, and moderately well drained soils, respectively. Ocilla complex soils and Wahee sandy loam, both somewhat poorly drained soils, each contained 17% of the total sites recovered. Ocilla loamy fine sand and Pooler fine sandy loam, a somewhat poorly and a poorly drained soil, each contained a single site. Both isolated prehistoric finds are located on high probability soils, suggesting, at least for this survey, that prehistoric finds are likely to be located on high probability soils. The model for historic sites presented by Campbell et al. (1996:227-230) suggests that there is a trend towards the presence of historic sites on well drained soils, although in these survey tracts, historic sites are generally located on low and indeterminate probability soils. It is more likely that historic sites are located in proximity to roads, and transportation areas, such as railroad depots, rather than exclusively in association with specific soils.

Table 10.
Percentages of Sites by Soil Type

Soil Type	# of Sites*	Percentage
Craven loamy fine sand	3	25%
Ogeechee loamy fine sand	3	25%
Ocilla complex	2	17%
Wahee sandy loam	2	17%
Ocilla loamy fine sand	1	8%
Pooler fine sandy loam	1	8%

*The number of sites equals 12 rather than the actual 9 sites due to the presence of site 9BN186 on four soil types.

Table 11.
Percentages of Sites by Drainage Characteristic of Soils

Drainage	# Sites	% Sites	Drainage %
Very poor	0		16%
Poor	1	8%	37%
Somewhat poor	8	67%	46%
Moderately well	3	25%	1%

Soil permeability may be a likely reason why sites are situated in certain locations and not others. Table 11 lists the percentages of sites found by drainage characteristic and the total percentage of drainage characteristics for all of the survey tracts. While it may seem that most sites are found on poorly to somewhat poorly drained soils, the percentage of soil drainage types in each survey tract, discussed previously, must be taken into account (Table 11).

The number of sites located on a particular drainage type is directly related to the percentage of that drainage represented on the entire tract, with the exception of moderately well drained soils. For example, 46% of all survey tracts consisted of somewhat poorly drained soils, the highest drainage characteristic. The largest percentage of sites was also found on somewhat poorly drained soils. Moderately well drained soils, representing only 1% of the total survey tract soils, contain 25% of the total sites located, suggesting that a larger number of sites are found on well drained soils as opposed to soils that are characterized by poorly drained soils. Poorly drained soils, accounting for 37% of total soils, have the lowest percentage of sites for all soils, accounting for only 8%. Very poorly drained soils, representing 16% of the total soils in the tracts, did not contain any sites.

Therefore, it appears that the number of sites in somewhat poorly drained soils is related to the total percentage of this type of soil drainage in the survey tracts. On the other hand, moderately well drained soils contain a very high number of sites for the low percentage (1%) of this soil drainage, indicating that moderately well drained contain higher numbers of sites than any other type of soil drainage in the survey tract. The lack of sites on very poorly drained soils also indicates that site locations are predicated by soil drainage.

Climate

The southeastern Atlantic coast of Georgia is usually hot and humid in the summer with a winter that is cool to occasionally bitter cold. Georgia's highest temperatures normally occur in July and, in the Fort Stewart area the summer average daily temperature is 80°F. The lowest temperature occurs in January and winter temperatures average 53° F. The average growing season in the Fort Stewart area ranges from about 260 to 270 days (Hodler and Schretter 1986:40).

Occasional tropical storms, coupled with the flow of moist air from the Gulf of Mexico over the warm land surface, make the late summer the season of greatest rainfall in southeastern Georgia; while November is typically the month of lowest rainfall for the project area (Clements 1989:53; Hodler and Schretter 1986:38). The total annual precipitation is 1.25 m. Of this, 60% usually falls from April through October, which includes the growing season for most crops (Looper 1982:2). During 1954, one of the driest years on record, the rainfall for the project area was only about 70 cm — about 55% of the normal rainfall. Campbell et al. (1996:13) suggest that floods are actually more common, typically occurring in the winter and spring. The flood-producing rains are usually caused with slow-moving low pressure centers and may be associated with tropical storms or prolonged thunder storm activity.

During the late Pleistocene and early Holocene periods temperatures were considerably cooler than they are today. Temperatures began to moderate and approach modern temperatures along the Southeast Atlantic Slope around 7,000 B.P. (Wright 1976:594). A more thorough discussion is provided below relating vegetational change to these climatic ranges.

Floristics and Paleoenvironment

The Coastal Plain in the vicinity of Fort

Stewart is today dominated by longleaf-slash pines with oaks and yellow poplar being found as common associates (Hodler and Schretter 1986:52; Shantz and Zon 1936:5). Although forests of large, equal-age pines were noted by explorers in the seventeenth century, this vegetation is largely the result of intentional action by humans. Described as a fire subclimax forest, these monospecific stands are maintained by periodic burning which exclude the young of most other arboreal species.

Küchler (1964) identifies the potential natural vegetation, that expected without the interference of humans, as a Southern Mixed Forest. These are tall forests of broadleaf deciduous and evergreen and needleleaf evergreen trees. The dominants are beech, sweet gum, southern magnolia, white oak, and laurel oak. Slash and loblolly pines are also dominants, although they would not be as prevalent as they are in today's fore subclimate setting. Other components include maples, hickories, dogwood, and palmetto (Küchler 1964:112). Along the major drainages Küchler identified Southern Floodplain Forests — dense, medium tall to tall forests of broadleaf deciduous and evergreen trees and shrubs and needleleaf deciduous trees such as tupelo, oak, bald cypress, along with maples, hickories, ash, sweet gum, oaks, and elm (Küchler 1964:113).

Today, suggestions of these potential natural forests are found only in more mesic, edaphically favorable and fire-protected areas (Campbell et al. 1996:14). In such areas, drainage, soil types, elevation, and slope are the major factors affecting vegetation and a range of different species, including live oaks, hickories, palmettoes, hollies, and bays will be found.

Today, all of the survey tracts studied are heavily managed. This includes, but is not limited to, the cutting of firebreaks and periodic burns. These areas are dominated by open pine forests with an understory vegetation which ranges from very dense in areas found along drainages to very sparse in others (Figures 12 and 13). Historic site locations quite often contain oaks and ornamental vegetation (Figure 14), whereas low swampy areas generally contain a dense undergrowth of scrub oak.

In the 1860s less than 30% of what would later become Liberty and Long counties (but known at that time as Liberty County) was improved for cultivation (Hilliard 1984:Map 44). By the 1940s only about a third of these two counties was cropped with most of the land being forested (Hodler and Schretter 1986:127). At the time Fort Stewart was acquired by the U.S. Army, Campbell et al. (1996:10) report that most of the plots were small to medium size woodlots. Today, about 20% of Liberty and Long counties is farmland, with about 13% actually under cultivation (Clements 1989:251, 255). Cotton and rice were historically produced on the bottomlands (Campbell et al. 1996:79-80). By the late antebellum there seems to have been a focused shift to small tracts of peas, sweet potatoes, and corn. Rice was largely abandoned by 1860 and cotton was little more than a subsidiary interest (Campbell et al. 1996:106-107). By the postbellum cotton and corn were still common, although potatoes, oats, cane, peaches, figs, grapes, and pecans were also being grown, at least in small quantities (Knight 1917:1256). Lumber and live stock were also growing industries. Today the principal agricultural activity for much of the area is ranching, while the principal crops are corn and soybeans, except in Tattnall County, where Vidalia onions are the most common crop. Logging remains a substantial economic activity (Clements 1989:251, 255).

Naval stores have played a major part in Georgia's Coastal Plain economy since the nineteenth century (Campbell et al. 1996:79-80). Obtained by heating the resin-filled heartwood of pine logs, pitch and tar were replaced as major exports by turpentine and rosin. These products are distilled from the raw gum exuded by living pine trees. Growing through the late antebellum and early postbellum, Georgia dominated U.S. gum production, accounting for about 50% by the 1890s. It lost considerable ground to adjacent Florida in the next four decades, but recovered its lead in the late 1930s and early 1940s. In 1970, Georgia contributed about 85% of the U.S. gum naval store production, although the significance of the gum market has declined dramatically in the twentieth century as the tall oil or sulfate production increased. Exacerbating the situation is a continuing severe labor

Figure 12. View of heavy brush in survey tract NRMU B24.2, view to the west.

shortage brought about by the low wages, the seasonal nature of the work, and its focus on hot and dirty manual labor (Hodler and Schretter 1986:148).

Pollen cores obtained from the Southeast Coastal Plain indicate a sequence of successional forest types from the Full Glacial through the Post Glacial periods (Watts 1971; Whitehead 1965). Before strong evidence of human population (pre-15,000 B.P.), cold-adapted vegetation predominated by spruce and jack pine was found in the Piedmont and Coastal Plain area. Other less common species included oak and ironwood. All of these species suggest a much colder and drier environment than found today (Watts 1980:326). Some have suggested that this climate was much like today's eastern Canadian boreal forests, dominated by pine and spruce distributed in a mosaic pattern of stands within sedge-dominated prairies. Campbell et al. (1996:34), however, also present evidence suggesting that while the climate was colder, it may *not* have been drastic enough to support a full boreal forest.

The somewhat warmer and moister environment evidenced in the Late Glacial (15,000 to 10,000 B.P.) is associated with an increase in deciduous species. Northern hardwoods, such as oak, hickory, beech, birch, and elm began replacing the spruce and jack pine populations. This change corresponds with warmer summer temperatures and colder winter temperatures as well as an increase in precipitation. It is during this period that there is the first moderately well documented evidence for human occupation (Watts 1980; Sassaman et al. 1990). This period was a transitional period between the glacial Late Pleistocene and the essentially modern climatic conditions of the Holocene. The resulting mesic forest, with its relatively high percentages of beech and hickory, has no modern analog and was the result of the cool, moist conditions which characterized this transition.

During the Post Glacial (10,000 B.P. to present) oak and hickory dominated the region. Other species such as walnut, hemlock, and hazelnut disappeared from the pollen record. By 9,500 B.P.

Figure 13. View of sparse vegetation in survey tract NRMU B24.2, view to the south.

Figure 14. View of a mature oak in survey tract NRMU B24.2, view to the northeast.

hickory and ironwood species declined and were replaced by sweetgum and blackgum. These changes prior to 7,000 B.P. suggest periods of rapid warming and increased moisture (Watts 1980; Watts and Stuiver 1980). It has been observed that these very rapid environmental changes would have created a dynamic ecosystem requiring constant adaptive adjustments on the part of early groups (Cable and Mueller 1980:7).

In the Georgia Coastal Plain, southern pine communities displaced the oak-dominated forests between 8,000 and 6,000 B.P. which led to a decrease in mast production (Sassaman et al. 1990:22; Campbell et al. 1996:35-36). This vegetational change probably had an effect on prehistoric land use during certain times of the year, since nut masts were probably more isolated and concentrated rather than widespread. Coupled with these vegetational changes was a cooler, moister climate (Watts 1971 and 1980).

Campbell et al. (1996:35-39) suggest a possible cause and effect relationship between climate changes beginning about 8,300 B.P. and the rise of pine forests. They note that as the climate shifted from less rainfall to a seasonably variable moisture regime there was also an increase in lightning-producing spring storms. These storms, they suggest, created the right conditions for frequent natural fires which would encourage, and maintain the presence of longleaf pine. They note that even today the mesic climatic regime "continues to provide an ideal environment for the longleaf pine and the Southern Evergreen Forest" (Campbell et al. 1996:38).

From about 5,000 B.P. and continuing to the present, Whitehead (1973) found pine increasing slightly, although oak appeared to remain dominant in natural forest stands. The precontact environment of the Piedmont Southeastern United States was termed "temperate deciduous forest" by Shelford (1974:56-88) with oak and hickory interspersed with pine, maple, ash, and other deciduous species (for a graphic representation see Shantz and Zon 1936). Küchler (1964) further supports this reconstruction.

Campbell et al. (1996:38-39) also suggest that other vegetational "adjustments" have included the filling in of Carolina bays with peat to form extensive pocosin wetlands and the expansion of coastal swamps under the influence of rising sea levels.

By the historic period the lower coastal plain was dominated by loblolly pine. The loblolly is also known as the "bull pine" because of its prodigious size and remarkable ability to invade dry, flat terrain and even the hilly uplands. The pines formed vast, open forests interrupted only by the occasional inland swamp and its accompanying hardwoods.

This area of the Coastal Plain, the soil, and the vegetation frequently attracted the attention of observant commentators. In the early eighteenth century John Wesley mentioned that:

> the Land is of four Sorts, Pine-barren, Oakland, Swamp and Marsh. The Pine-Land is of far the greatest Extent, especially near the Sea-Coasts. The Soil of this, is a dry, whitish Sand, producing Shrubs of several sorts, and between them a spiry, coarse Grass which Cattle do not love to feed. But here and there is a little of a better kind, especially in the Savannahs (so they call the low, watry Meadows, which are usually intermixt with Pine-Lands) (Reese 1974:232-233).

Throughout Georgia's history, these "pine-barrens" were known as land of less value than other, more fertile tracts. Even as early as 1740, William Stephens provided an account which observed, "the American dialect distinguishes land into pine, oak and hickory, swamp, savannah, and marsh" (Frech and Swindler 1973:79). He commented that where oak and hickory trees grew "the soil is in general of a strong nature, and very well esteemed for planting, being found by experience to produce the best crops of Indian Corn, and most sorts of grain" (Frech and Swindler 1973:79). The swamp soils, with their "black moulds" were best for rice. The savannahs and marshes, while producing no trees, did contain large numbers of "canes," which were reported to be excellent winter

forage for cattle. Only for the pine lands, "of a sandy surface," could Stephens find nothing encouraging to say.

English occupation of the countryside, including occupation of Georgia's pine barrens, gradually changed its appearance. The pines which dominated the topography, for example, began to give way to scrubby hardwoods by the early 1800s (Silver 1990:187). It is almost certain that the process was largely completed by the mid-1800s. Yet there were other, equally momentous changes. Turkeys and other wild fowl were less common, while the flocks of Carolina parakeets and passenger pigeons approached extinction. Buffaloes were already gone from the neighboring Piedmont. In the lowland swamps the beavers, otters, and minks were close to extinct, as were other occasional visitors such as bears, wolves, panthers, and bobcats.

The countryside was becoming increasingly dominated by small farms. The new ecology, created by clearing and farming grains, encouraged flocks of quail. While the minks and otters gave way to hunting pressures, they were quickly replaced by the opossum. By the nineteenth century the most common animals were the cattle, hogs, and sheep brought by the Coastal Plain settlers. Silver notes that, "fewer canebrakes and overgrazed mixed hardwood forests attest to the forage habits of these Old World Beasts" (Silver 1990:187-188). The changes were dramatic, gradually giving rise to the lower Coastal Plain we know today.

PREHISTORIC AND HISTORIC OVERVIEW

Previous Research

Relatively few in-depth studies have been conducted at Fort Stewart. The majority of those readily available have been contracts, let by the United States Army, in an effort to determine the extent of cultural resources located on the base.

The earliest study of any intensity was that conducted in 1980 and 1981 by Professional Analysts, Inc. (Miller et al. 1983). The goal of the study was to conduct a sample survey in order to produce a predictive model for the entire facility (Campbell et al. 1996:174). The sample universe was established as all fire breaks less than 3-years old. These were stratified by soil association and a pedestrian survey was conducted. Only the actual fire break was examined and no shovel tests were excavated. Campbell et al. (1996:174) report that the total coverage was 370 km. Assuming that the fire breaks were an average of 3 m in width, this would account for about 111 ha. This represents a 0.1% survey of the entire base.

In addition to the stratified sample survey, a judgmental survey was conducted of base food plots and an effort was apparently made to relocate a number of previously identified sites on the base (Campbell et al. 1996:176). In all, 29 previously recorded archaeological sites were revisited.

The survey identified a total of 85 sites, including 50 prehistoric sites, 17 historic sites, and 18 prehistoric and historic sites. In all, 145 components were represented. This survey found a density of about 1 site per ha. The site types included lithic scatters (many without diagnostic remains), villages, a burial mound, and riverine camps. Historic sites dated primarily to the late nineteenth century. Historic research also identified, as potential sites, 24 historic properties.

This study forms the nucleus of Fort Stewart's predictive model. Miller et al. (1983 quoted in Campbell et al. 1996:203) identified four probability zones:

> Very high probability — locations which include well-drained bluffs along the Ogeechee and Canoochee Rivers.
>
> High probability — areas where well-drained soils, such as Craven, Lakeland, Tifton, Pooler, Ocilla, Fuquay, and Stilson, occur. Also included are areas in proximity to high order streams.
>
> Medium probability — areas which include all of the soil types that are not excessively drained or very poorly drained, representing the vast majority of the base. These areas essentially represent portions of Fort Stewart for which the survey coverage was inadequate to allow any reasonable prediction of probability.
>
> Low probability — areas where the soils, such as Rutledge, Mandarin, Osier, Johnston, Ellabelle, and Bibb, are either excessively drained or very poorly drained.

Campbell et al. (1996:211-228) provide a detailed analysis of this model, which has recently been updated by McKivergan (1998). Most importantly, they provide a detailed listing of soils, assigning a probability ranking. While the single minded reliance by Miller et al. (1983) on soil and drainage to predict archaeological probability can be criticized, it does offer an initial focus for future efforts at Fort Stewart. This

current study, in fact, is at least partially based on the early predictive work by Miller and his colleagues. In the **Conclusions** to this study some further evaluation of its applicability is provided.

Other investigations in the area have included a 1988 survey conducted in the Brigade Maneuver area of Fort Stewart by Carolina Archaeological Services (Jackson et al. 1988). Although this tract included 1,507 ha it is of limited comparability since it involved no shovel testing — all of the survey was pedestrian (Jackson et al. 1988:22; Campbell et al. 1996:181).

During this survey of the Brigade Maneuver area, forty-three archaeological sites were reported, including Early Archaic and Early Woodland remains, and historic sites dating primarily from the late nineteenth and early twentieth centuries (Campbell et al. 1996:181).

Four site types were identified during the Carolina Archaeological Services survey (Campbell et al. 1996:191):

> Site Type 1- Prehistoric campsites or lithic scatters — contain diagnostic or non-diagnostic lithic debris and/or ceramic sherds indicative of aboriginal subsistence activities.
>
> Site Type 2 - Late nineteenth and early twentieth century farmsteads and activity loci — contain diagnostic historic material, often in association with brick, features and/or aligned trees, or ornamental vegetation (i.e., orchards, groves, gardens).
>
> Site Type 3 - Historic Cemeteries — contain marked or unmarked human interments.
>
> Site Type 4 - Multicomponent sites (historic farmsteads/activity locus and prehistoric activity locus) — contain debris associated with historic farmsteads or activity loci, plus prehistoric activities.

Early Archaic and Late Woodland components were found to co-occur on the same sites within the Carolina Archaeological Services study (Jackson et al. 1988:46).

The study at Brigade Maneuver area in general (see Campbell et al. 1996:212-213), supports the probability assessments established by Miller et al. (1983). Jackson et al. (1988), however, note that site density may be higher than initially suggested for Fort Stewart. Although only 1 site per 24.6 ha was recorded, few of the high probability soils were encountered in their survey (Campbell et al. 1996:181).

In 1995-96 Chicora Foundation conducted a 522 ha shovel test survey of the JAECK Drop Zone, during which relatively few sites were located (Trinkley et al. 1996). These included two prehistoric sites and two historic sites.

A second area containing 241 ha, known as the Taylors Creek tract, was surveyed at the same time by Chicora Foundation. A total of three prehistoric sites and the historic town of Taylors Creek were identified during the survey.

Prehistoric sites recorded during the 1995-96 Chicora Foundation survey contained artifacts spanning the Early Archaic to Mississippian periods. The three historic sites, including the Taylors Creek town, contained artifacts from the late eighteenth century to the twentieth century.

In 1996-97 Chicora Foundation conducted an 809 ha shovel test survey (survey tract "A") in portions of training areas E-16 and E-20 (Trinkley et al. 1997). Seventeen sites and 14 isolated occurrences were identified. These included three prehistoric sites, 14 historic sites, one of which was the small community of Shady Grove, and one multicomponent prehistoric/historic site. The prehistoric sites contained artifacts that date to the Mississippian period.

A second area ("B") containing 804 ha in portions of training areas E-14 and E-15, was shovel tested at the same time as the above survey. Four sites and eight isolated occurrences were identified. Although four historic sites were identified in this survey tract, no prehistoric sites were identified.

The historic sites recorded during the 1996-97 Chicora Foundation survey, date from the mid-nineteenth century to the twentieth century.

In 1998, the Chicora Foundation conducted a survey covering nine survey tracts, including A9.1, A12.1, A12.2, B7.2, B7.3, E6.3, E8.3, F7.2, and F17.3 (Campo et al. 1998). A total of 26 sites and 19 isolated sites were identified, including two prehistoric sites adjacent to Taylors Creek, three cemeteries, a railroad, and an earthen dam in Taylors Creek. The prehistoric sites contained artifacts that date to the Deptford period.

The Chicora Foundation studies, in general (see Campo et al. 1998:164-165; Trinkley et al. 1996:113-123 and Trinkley et al 1997:139-142), did not confirm or deny the probability assessments established by Miller et al. (1983). Trinkley et al. (1996), however, note that the site density is slightly lower in the JAECK Drop Zone survey tract (0.76 sites per km^2) than that suggested for Fort Stewart (1.1 sites per km^2), whereas the Taylors Creek survey tract exhibits a higher site density (2.5 sites per km^2). Assessment of the data recovered during the 1996-1997 survey found a site density in survey tract "A" (portions of NRMU E-16 and E-20) of 3.83 sites per km^2 and a site density in survey tract "B" (portions of NRMU E-14 and E-15) of 1.49 sites per km^2.

The Campbell et al. (1996) predictive model essentially relies on soil drainage, while the revised predictive model (McKivergan 1998) relies on both soil drainage and proximity to water. The Chicora (1996 and 1998) studies determined that site probabilities are best based on a broad range of factors. The location of prehistoric sites may be dependent on factors such as distance to water. Historic sites locations seem to be determined by commercial, industrial, and broad agricultural needs rather than on strictly defined soil, water, or topography criteria.

Prehistoric Overview

Overviews for Georgia's prehistory, while of differing lengths and complexity, are available in virtually every compliance report prepared for Fort Stewart. Of special interest is the Historic Preservation Plan for Fort Stewart which provides a lengthy overview of the prehistoric cultural sequence (Campbell et al. 1996:45-69). In addition, there are some "classic" sources well worth attention, such as Williams' edited works of Antonio J. Waring, Jr. (Williams 1968).

These can be supplemented with a broad range of theses and dissertations, such as Lewis Larson's examination of coastal subsistence technology (Larson 1969), Chester DePratter's discussion of Southeastern chiefdoms (DePratter 1983), or Morgan Crook's examination of Mississippian community organization along the coast (Crook 1978).

Also extremely helpful, perhaps even essential, are a handful of recent local synthetic statements, such as that offered by Anderson and Sassaman (1996) for the Early Archaic, Sassaman and Anderson (1994) for the Middle and Late Archaic, and Anderson et al. (1990) for the Paleoindian. Only a few of the many available sources are included in this study, but these should be adequate to give the reader a "feel" for the area and help establish a context for the various sites identified in the current study. For those desiring a more general synthesis, perhaps the most readable and well balanced is that offered by Judith Bense (1994), *Archaeology of the Southeastern United States: Paleoindian to World War I*. Figure 15 offers a generalized view of Georgia's cultural periods.

Paleoindian Period

The Paleoindian Period, most commonly dated from about 12,000 to 10,000 B.P., although it has been suggested by some archaeologists that the beginning date for the Paleoindian Period be pushed to as early as 14,000 B.P. (Oliver 1981), Lithic tools associated with the Paleoindian Period include basally

thinned, side-notched projectile points, fluted, lanceolate projectile points, side scrapers, end scrapers, and drills (Coe 1964; Michie 1977; Williams 1968). Non-fluted points such as the Hardaway Side-Notched and Palmer Corner-Notched types, usually accepted as Early Archaic, are occasionally seen as representatives

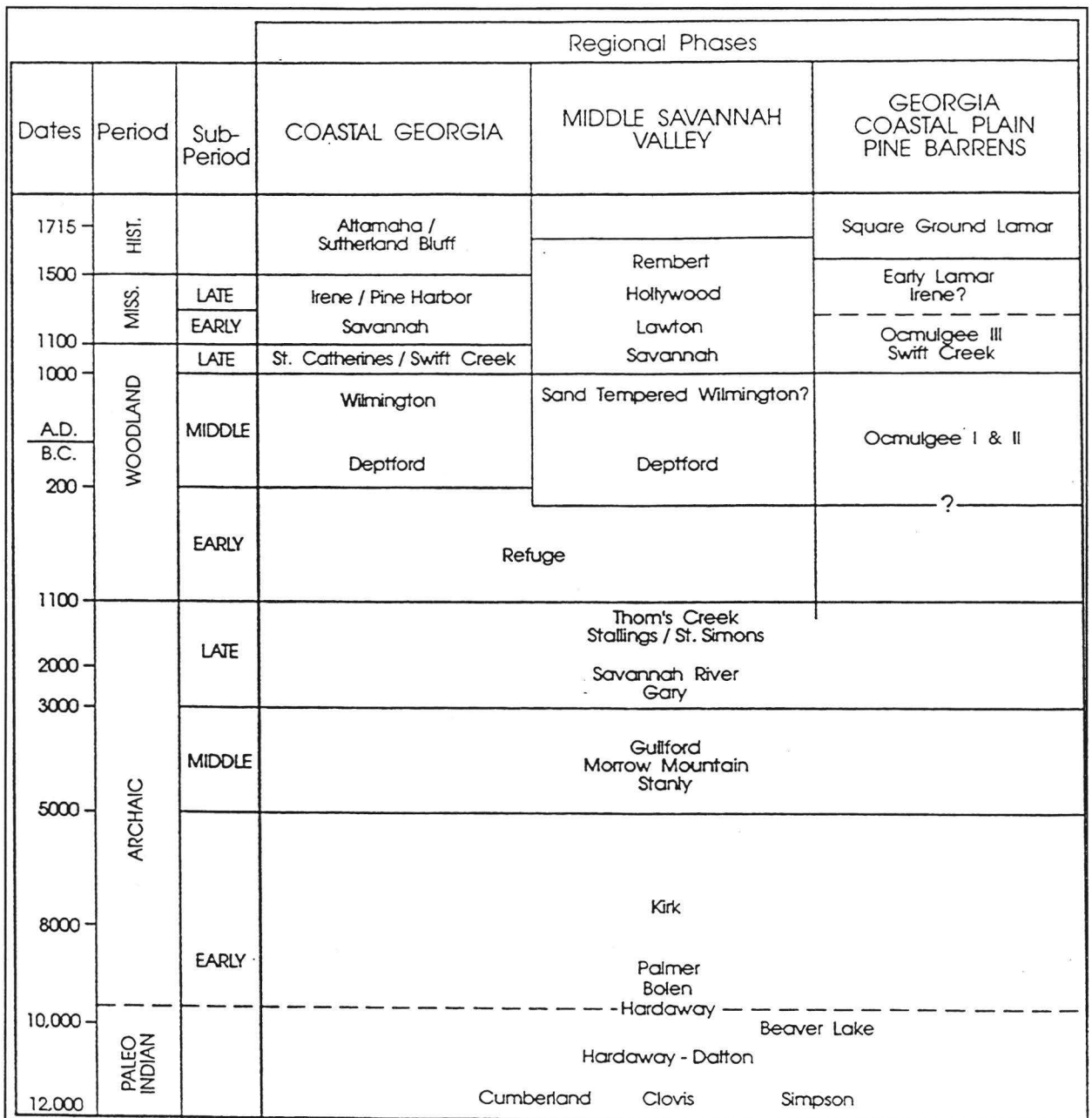

Figure 15. Cultural periods for the Georgia coastal region (adapted from Braley 1990; DePratter 1979:Table 30; Sassaman et al., 1990:Table 1).

of the terminal phase of the Paleoindian Period (Figure 16). This view, verbally suggested by Coe for a number of years, has considerable technological appeal.[1] For the North Carolina area Oliver suggests a continuity from the Hardaway Blade through the Hardaway-Dalton to the Hardaway Side-Notched, eventually to the Palmer Corner-Notched (Oliver 1985:199-200). While convincingly argued, this approach is not universally accepted and there appears to be no such continuum in Georgia.

The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented toward the exploitation of now extinct mega-fauna" (Michie 1977:124). Survey data for Paleoindian tools, most notably fluted points, is rather sparse for Georgia (Ledbetter et al. 1992). In spite of this, the distribution offered by Anderson (1992:Figure 5.1) reveals a rather general, and widespread, occurrence throughout the region. The recognition of Paleoindian sites in Georgia is hindered not only by a lack of research, but also by the small size of typical sites (often the Paleoindian component may be recognized by a single tool) and the heavy amount of reworking and curation seen in Paleoindian tools from Georgia (Ledbetter et al. 1992:261).

Distinctive projectile points include lanceolates such as Clovis, Dalton, Suwannee, and perhaps the Hardaway (Anderson 1990:7-9).During the later portion of the Paleoindian, many researchers (see Snow 1977:3-4, Figure 1 for example) borrow from Florida and suggest that these more classic large lanceolate points were replaced by smaller points with concave bases, such as the Sante Fe, and Beaver Lake (Bullen 1975:45-47; Milanich and Fairbanks 1980:45). In addition, points such as the Bolen Plain and Bolen Beveled (Bullen 1975:44, 49-53; Milanich and Fairbanks 1980:45) are thought to be intermediate between the Late Paleoindian and Early Archaic in much the same way as the Palmer of South and North Carolina is regarded.

Unfortunately, relatively little is known about Paleoindian subsistence strategies, settlement systems, or social organization (see, however, Anderson 1992 for an excellent overview and synthesis of what is known). Generally, archaeologists agree that the Paleoindian groups were at a band level of society (see Service 1966), were nomadic, and were both hunters and foragers. While population density, based on isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

According to Campbell et al. (1996:47-49) no Paleoindian sites have been identified on Fort Stewart through professional research (excepting the recovery of a Dalton projectile point from 9LI276 and a Hardaway-Dalton from 9BN36), although at least one local collector has reported early points from the general area. This near absence is attributed to the lack of readily available raw materials. Should Paleoindian materials be encountered, Georgia has developed a rather detailed preservation plan which outlines a broad range of appropriate research questions (Anderson et al. 1990).

The prevalence of Paleoindian occupation is dramatically increased, however, if Bolen and Palmer points are included. Campbell et al. (1996:52) note that several sites have produced these materials, which they attribute to the Early Archaic. In addition, Snow comments that "large choppers, unifacial blades, and scrapers" are found in the Coastal Plain, but can be attributed to the Paleoindian Period only on the basis of their "patination; some appear chalky, and display a general likeness to Paleo-Indian material of known antiquity" (Snow 1977:3).

[1] While never discussed by Coe at length, he did observe that many of the Hardaway points, especially from the lowest contexts, had facial fluting or thinning which, "in cases where the side-notches or basal portions were missing, . . . could be mistaken for fluted points of the Paleo-Indian period" (Coe 1964:64). While not an especially strong statement, it does reveal the formation of the concept. Further insight is offered by Ward's (1983:63) all too brief comments on the more recent investigations at the Hardaway site (see also Daniel 1992).

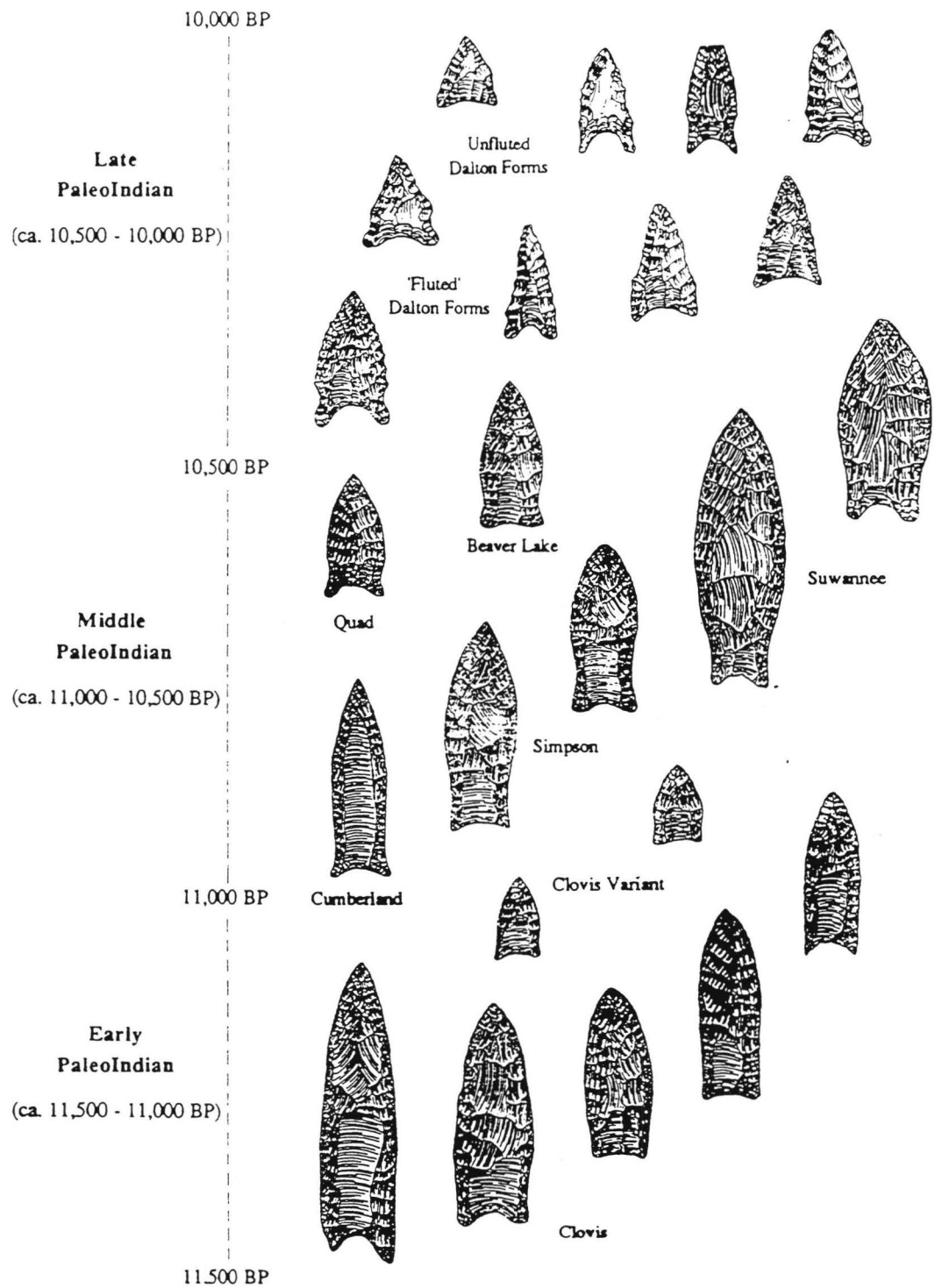

Figure 16. Diagnostic Paleoindian projectile points and suggested chronology for Georgia and the Carolinas (adapted from Anderson 1992:Figure 3.1).

Archaic Period

The Archaic Period, which dates from 10,000 to 3,000 B.P.[2], does not form a sharp break with the Paleoindian Period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited animal. Archaic period assemblages, exemplified by corner-notched and broad-stemmed projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

The review of available survey data by Campbell et al. (1996:52-54) suggest that there was a noticeable population increase from the Paleoindian (seven Early Archaic components were noted) to the Late Archaic (20 Late Archaic components were noted). The increase in components over time certainly corresponds with generalized findings of other researchers, and may be tentatively associated with a greater emphasis on foraging. Campbell et al. (1996:52) note, however, that considerably fewer Early and Middle Archaic remains are found than seemingly should be present, based on comparable surveys elsewhere in the region. They suggest this may be the result of the sites being "buried in deep subsurface contexts" (Campbell et al. 1996:52). Unfortunately, they provide no substantive reasoning, geomorphological studies, or rationale for this assessment. Their comparative data consists of only one other survey, the Ebenezer Watershed (Fish 1976). Nor do they explore other explanations for the disparity between Archaic settlement in the Fort Stewart area and in this one other study area.

Diagnostic Early Archaic artifacts include the Kirk Corner Notched point. As previously discussed, Palmer and Bolen points may be included with either the Paleoindian or Archaic period, depending on theoretical perspective. As the climate became hotter and drier than the previous Paleoindian period, resulting in vegetational changes, it also affected settlement patterning as evidenced by a long-term Kirk phase midden deposit at the Hardaway site (Coe 1964:60). This is believed to have been the result of a change in subsistence strategies. Other hallmarks of the Early Archaic are often considered to include a continued reliance on high quality lithic raw materials, a highly curated tool kit, high geographic mobility, and periodic aggregation of band-sized groups (see Anderson and Hanson 1988; Daniel 1992).

Settlements during the Early Archaic suggest the presence of a few very large, and apparently intensively occupied, sites which can best be considered base camps. Hardaway might be one such site. In addition, there were numerous small sites which produce only a few artifacts — these are the "network of tracks" mentioned by Ward (1983:65). The base camps produce a wide range of artifact types and raw materials which has suggested to many researchers long-term, perhaps seasonal or multi-seasonal, occupation. In contrast, the smaller sites may be thought of as special purpose or foraging sites.

There are several intensively occupied Early Archaic sites which are of special importance in our understanding of this period, including the Lewis East and Pen Point sites in South Carolina (Sassaman and Anderson 1994:84-85) and the Taylor Hill site in Georgia (Elliott and Doyon 1981).

Middle Archaic (8,000 to 6,000 B.P.)

[2] The terminal point for the Archaic is no clearer than that for the Paleoindian and many researchers suggest a terminal date of 4,000 B.P. rather than 3,000 B.P. There is also the question of whether ceramics, such as the fiber-tempered Stallings ware, will be included as Archaic, or will be included with the Woodland. Oliver, for example, argues that the inclusion of ceramics with Late Archaic attributes "complicates and confuses classification and interpretation needlessly" (Oliver 1981:20). He comments that according to the original definition of the Archaic, it "represents a preceramic horizon" and that "the presence of ceramics provides a convenient marker for separation of the Archaic and Woodland periods (Oliver 1981:21). Others would counter that such an approach ignores cultural continuity and forces an artificial, and perhaps unrealistic, separation. Sassaman and Anderson (1994:38-44), for example, include Stallings and Thom's Creek wares in their discussion of "Late Archaic Pottery."

diagnostic artifacts include Morrow Mountain, Guilford, Halifax and Stanly projectile points. Ledbetter remarks that a possible regional variant includes the side-notched or corner-notched points similar to Halifax, as well as an elongated point known as the Brier Creek Lanceloate (Ledbetter 1995:12; Michie 1968; Sassaman and Anderson 1994:27). Also observed during this period is the MALA (Middle Archaic-Late Archaic) point, which are typically made from heat-treated chert and considered by some to be a regional variant of the Benton type (see Sassaman 1985; see also Sassaman and Anderson 1994:27-29 for a more updated discussion).

Much of our best information on the Middle Archaic comes from sites investigated west of the Appalachian Mountains, such as the work by Jeff Chapman and his students in the Little Tennessee River Valley (for a general overview see Chapman 1977, 1985a, 1985b). Closer to Georgia, there is Ledbetter's (1995:12) work at Pen Point on the Savannah River, as well as work at Fort Gordon (9CB81, see Braley and Price 1991), and 9RI178 (Elliott et al. 1994).

There is good evidence that Middle Archaic lithic technologies changed dramatically. End scrapers, at times associated with Paleoindian traditions, are discontinued, raw materials tend to reflect the greater use of locally available materials, and mortars are initially introduced. Curated tools are less common. Associated with these technological changes there seem to also be some significant cultural modifications. Prepared burials begin to more commonly occur and storage pits are identified. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and the Carolinas, where axes, choppers, and ground and polished stone tools are very rare.

Coastal Plain settlement models for the Middle Archaic have traditionally focused on the near absence of diagnostic material. It has been suggested that the "Pine Barrens" were unattractive or could not support dense occupation. This view has been espoused by Larson (1980). As Sassaman and Anderson (1994:149) suggest, it may be that Middle Archaic groups avoided the coastal plain not because the area was impoverished, but rather because the available resources were patchy and this "patchiness" resulted in high "hidden" costs such as constant movement, increasing specialization, and the need to store larger quantities of food.

Sassaman and Anderson (1994:150-152) also briefly review the evidence supporting a focus on swamp floodplains during the Middle Archaic, noting that while such environmental settings can be difficult to identify, they do seem to be associated with large, multicomponent sites. In addition, they illustrate the mounting evidence to support seasonal rounds or seasonal transhumance between the coast and the interior (e.g., Milanich 1971).

The Late Archaic, usually dated from 6,000 to 3,000 or 4,000 B.P., is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). In addition, research in the Georgia Coastal Plain suggests the presence of Gary Points, having a triangular blade, squared shoulders, a contracting stem, and a rounded or occasionally pointed base (see Smith 1978 for examples from Laurens County, Georgia). These Late Archaic people continued to intensively exploit the uplands although the available Fort Stewart data for this period reveal that the sites are spread over a variety of environmental zones with no obvious patterning (Campbell et al. 1996:52-53).

One of the more debated issues of the Late Archaic is the typology of the Savannah River Stemmed and its various diminutive forms. Oliver, refining Coe's (1964) original Savannah River Stemmed type, developed a complete sequence of stemmed points that decrease uniformly in size through time (Oliver 1981, 1985). Specifically, he sees the progression from Savannah River Stemmed to Small Savannah River Stemmed to Gypsy Stemmed to Swannanoa from about 5000 B.P. to about 1,500 B.P. He also notes that the latter two forms are associated with Woodland pottery. This reconstruction is still debated with a number of archaeologists

expressing concern with what they see as typological overlap and ambiguity. They point to a dearth of radiocarbon dates and good excavation contexts at the same time they express concern with the application of this typology outside the North Carolina Piedmont where it was originally developed (see, for a synopsis, Sassaman and Anderson 1990:158-162, 1994:35).

In addition to the presence of Savannah River points, the Late Archaic also witnessed the introduction of steatite vessels (see Sassaman 1993), polished and pecked stone artifacts, and grinding stones. Some also include the introduction of fiber-tempered pottery about 4000 B.P. in the Late Archaic (for a discussion see Sassaman and Anderson 1994:38-44; Sassaman 1993:16-41). This innovation is of special importance along the Georgia and South Carolina coasts.

Coupled with the presence of fiber-tempered Stallings or St. Simons pottery (Griffin 1943; DePratter 1991:159-162) are also a broad range of worked bone and shell items, such as engraved bone pins, whelk columella beads, and antler projectiles. Coupled with these artifacts are shell rings — doughnut shaped heaps of shells ranging from only a few feet in height to over 20 feet (see Trinkley 1985 for a general overview). There is evidence that these shell rings represent gradually formed habitation sites with occupation taking place on the rings. The sites appear to reflect permanent, year-round occupation suggesting that the coastal St. Simons and co-evil Thom's Creek (found primarily northeast of the Savannah River in South Carolina) groups were able to schedule their subsistence activities to allow stable settlements (Trinkley 1980).

There is evidence that during the Late Archaic the climate began to approximate modern climatic conditions. Rainfall increased resulting in a more lush vegetation pattern. The pollen record indicates an increase in pine which reduced the oak-hickory nut masts which previously were so widespread. This change probably affected settlement patterning since nut masts were now more isolated and concentrated. From research in the Savannah River valley near Aiken, South Carolina, Sassaman has found considerable diversity in Late Archaic site types with sites occurring in virtually every upland environmental zone. He suggests that this more complex settlement pattern evolved from an increasingly complex socio-economic system. While it is unlikely that this model can be simply transferred to the Coastal Plain of Georgia without an extensive review of site data and micro-environmental data, it does demonstrate one approach to understanding the transition from Archaic to Woodland.

Woodland Period

Sassaman (1993:55) recalls the cautions of Joseph Caldwell, who found "the regional landscape of the Early Woodland ceramic traditions" a "fascinating array of local developments and diverse extralocal influences." As a consequence, the Early Woodland becomes quickly confused and difficult to interpret.

As previously discussed, there are those who see the Woodland beginning with the introduction of pottery. Under this scenario the Early Woodland may begin as early as 4,500 B.P. and continued to about 2,300 B.P. Diagnostics would include the small variety of the Late Archaic Savannah River Stemmed point (Oliver 1985) and pottery of the Stallings, St. Simons, and (to a lesser extent) Thoms Creek series (Griffin 1943; Trinkley 1976; DePratter 1991:159-162). The fiber-tempered Stallings and St. Simons wares and the sandy paste Thoms Creek wares are decorated using punctations, jab-and-drag, and incised designs (Trinkley 1976).

Others would have the Woodland beginning about 3,000 B.P. with the introduction of the Refuge wares, also characterized by sandy paste, but often having only a plain or dentate-stamped surface (DePratter 1976, 1991:163-167; Waring 1968). There is evidence that the punctated and dentate surface decorations are gradually replaced by plain and simple stamped treatments. Sassaman et al. (1990:191) report a distribution similar to the earlier fiber-tempered and Thom's Creek wares, and suggest that the Refuge wares evolved directly from these earlier antecedents.

On the Georgia coast, Refuge has been

subdivided into three subphases, with plain and dentate stamping found during the entire period. Toward the end, linear and check stamping is introduced, sometimes with grog or clay tempering. Typically these sites are found on ridges or other high, sandy ground, although DePratter also notes that many sites have been inundated by the rising sea level and are situated in the marsh (DePratter 1976:6-8).

Oelmer ceramics, which admittedly are poorly understood (DePratter 1979:177; see also Depratter 1991:42-59), are likely a Refuge-Deptford transition. DePratter describes the pottery's check stamping as consisting:

> of small, rhomboid or diamond checks, carefully applied to the vessel surface without overstamping. The [Oelmer] complicated stamping is somewhat unusual, consisting of small, carefully executed line-filled triangles, nested diamonds, and other motifs (DePratter 1979:117).

He observes that the largest sample comes from the Oelmer site and that other researchers have occasionally called the pottery Deptford Geometric Stamped. The pottery is so uncommon that it may well represent only a variety of either Refuge or Deptford.

In spite of the relative lack of detailed investigations at Early Woodland sites, it seems likely that the subsistence economy was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish. This is based on an impression that there was a continuation of a generalized Late Archaic pattern, which may or may not be appropriate.

Fort Stewart has apparently produced no Refuge sites and Campbell et al. (1996:60) doubt that such sites will exist in the Coastal Plain unless possibly associated with earlier fiber-tempered sites. They note, however, that the Georgia State Site files report the presence of at least four Refuge/Oelmer components at sites on Fort Stewart (Campbell et al. 1996:57). Consequently, it is difficult to assess the potential for Refuge sites at Fort Stewart.

Somewhat more information is available for the Middle Woodland, typically given the range of about 2,500 B.P. to about 1,200 B.P. The most characteristic pottery of this time period is Deptford, although both Swift Creek and Wilmington are likely late additions. Regardless, the Middle Woodland is best understood in the context of Deptford, which has been carefully described by DePratter (1979:118-119, 123-127), who suggests two divisions with check stamping and cord marking gradually being supplemented by complicated stamping. The introduction of clay or grog tempered Wilmington wares follows on the heels of the Deptford phase.

We do not, however, mean to imply that the origin of the Middle Woodland is well understood. In fact, Sassaman takes some pains to emphasize that the transition from Refuge to Deptford is not well understood:

> the Refuge-Deptford problem is the result of numerous regional processes that converge in the Savannah River region between 3000 and 2000 B.P. The sociopolitical entities that existed on the coast and in the interior during the fourth millennium dissolved after about 2400 B.P., resulting in the dispersal of small populations across the region. . . Pottery designs changed from highly individualistic punctation and incision to the (seemingly) anonymous use of dowels for stamping. . . the use of a carved paddle for simple stamping should mark the "blending" of Refuge and Deptford culture, or, more accurately, reflect the subsumption of Refuge culture by the expanding Deptford complex. (Sassaman 1993:118-119).

The work by Milanich (1971) and Smith (1972), coupled with the considerable additional site-

specific research (see, for example, DePratter 1991; Sassaman 1993:110-125; Thomas and Larsen 1979) provides an exceptional background for this particular phase. Milanich's (1971) interpretation of a coastal-estuarine settlement model with interior occupation limited to short-term extractive activities, while still useful, has been modified through the discovery of a number of interior base camps. In fact, there seems to be evidence for a number of interior seasonal or perhaps even permanent base camps, although there is as yet no convincing evidence of horticulture. Anderson (1985:48) provides a brief overview of some very significant concerns. He notes that Milanich's interpretation that the interior river valleys were used by small, residentially mobile foraging groups which dispersed from large coastal villages is clearly not correct. In fact, just the opposite appears more likely, with coastal use and settlement being seasonal (Anderson 1985:48-49).

DePratter (1979:119, 128-131; 1991) takes the position that Wilmington pottery post-dates Deptford, ushering in the use of grog or clay as a tempering material in the late Middle Woodland. The check stamping and complicated stamped motifs found in the Deptford continue, except with clay tempering for a short time. Called Walthour, these wares are described by DePratter (1991:174-176), but they apparently existed for only a short period of time before being completely replaced by cord marking (DePratter 1979:119).

Wilmington phase sites are rather poorly understood in the Georgia Coastal Plain. Not only has there been little effort to develop settlement models incorporating the Wilmington, there is very little technological research on the pottery itself. The potential importance of the Wilmington phase is perhaps evidenced by Snow's (1977) survey of the Ocmulgee Big Bend area, where large quantities of what he called "Ocmulgee I" pottery was found. He specifically states that this ware "is not Wilmington" (Snow 1977:42), noting that while there is some clay tempering (certainly not the abundant grog tempering of classic Wilmington), much of the pottery has a sandy paste (Snow 1977:36). Perhaps the most distinctive characteristic of this pottery (which is associated with at least one burial mound) is a heavy folded rim. Folded rims seem to gradually drop out, while the paste becomes increasingly more gritty in succeeding Ocmulgee II and III types.

Curiously, coupled with the coastal Wilmington material is what the W.P.A. researchers called Chatham County Cord Marked (DePratter 1991:179-180), a grit-tempered (rather than clay-tempered) heavy cord marked pottery. DePratter remarks this is possibly related to the "sand tempered" pottery that Stoltman (1974:63), further up the Savannah River, called "Wilmington."

It seems that Georgia, just like South Carolina and North Carolina, is struggling to comprehend, and deal with, a broad array of Middle Woodland cord marked pottery.

Although Deptford pottery is well recognized, the associated lithic technology is not. For Florida, Milanich and Fairbanks (1980:75-76) mention only that "medium-sized triangular" points are present. Yadkin-like triangular points are reported to be found with Wilmington sites (Anonymous 1940). Snow (1977:Figure 47) reports a broad range of small triangular points with his Ocmulgee I, II, and III cord marked pottery. The bulk of these appear to resemble more traditional Yadkin and Caraway points (Coe 1964:30-32, 49).

The Middle Woodland cannot be fully appreciated without reference to Hopewellian influences, whether the presence of coastal sand burial mounds and their evidence of status differences (e.g., Thomas and Larsen 1979) or the presence of occasional exchange goods. Sassaman et al. note that while there is a lack of "obvious" Hopewellian influence in the Savannah area, there is nevertheless evidence of a "higher order of sociopolitical complexity" (Sassaman et al. 1990:14). They note that the broad similarities in ceramic design evidence the movement of ideas, or "interprovincial integration," not seen in the Early Woodland. The presence of coastal shells found at interior sites demonstrates the movement of goods.

At Fort Stewart the Middle Woodland period

is better represented than the Early Woodland. Twenty-three sites have produced Deptford remains. Of these 23 Deptford sites, four also produced Wilmington pottery, and one produced Refuge and Wilmington pottery in addition to Deptford pottery (Campbell et al. 1996:56-57) Two sites noted by Campbell et al. (1996:57) produced only Wilmington pottery. Campbell et al. (1996:57) fail to discuss lithic resources, so it is not possible to ascertain if Middle Woodland lithic scatters have been encountered.

In some respects the Late Woodland (1,200 B.P. to 400 B.P.) may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas and Georgia there were major cultural changes, such as the continued development and elaboration of agriculture, the coastal South Carolina and Georgia groups settled into a lifeway not appreciably different from that observed for the previous 500-700 years. From the vantage point of Middle Savannah Valley Sassaman and his colleagues note that, "the Late Woodland is difficult to delineate typologically from its antecedent or from the subsequent Mississippian period" (Sassaman et al. 1990:14). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971). Anderson (1994:366-368) provides a basic review of the Late Woodland and Mississippian ceramic sequence at the mouth of the Savannah River. This review is particularly useful since it also compares and contrasts these developments to those in the middle and upper reaches of the Savannah (Anderson 1994:368-377).

Milanich (1971:148-149) and Caldwell (1970:91) saw the St. Catherines pottery, which seemingly characterizes the Late Woodland, as an important aspect in the gradual progression from Deptford to Wilmington to St. Catherines to Savannah. Perhaps the most succinct summary of the Georgia Late Woodland St. Catherines phase is that offered by DePratter and Howard (1980:16-17). Significantly, they note that most of the Georgia data comes from burial mound excavations, "because only limited village [and presumably shell midden] excavations have been conducted" (DePratter and Howard 1980:16). Even with burials there is a limited range of artifact types — shell beads, worked whelk shell bowls or drinking cups, bone pins, and triangular projectile points. Not only is little known about village life, nothing is known concerning residential structures and there is no good evidence of agricultural crops. Once again, the Late Woodland is presented as little more than an extension of the previous Middle Woodland lifeways.

DePratter (1979:119) provides a generalized introduction to the St. Catherines phase, noting its original definition by Caldwell (1971) and remarking that the ceramics are:

> characterized by finer clay tempering than that of preceding Wilmington types and by the increased care with which the ceramics were finished. The lumpy contorted surface of Wilmington types was replaced by carefully smoothed and often burnished interiors and exteriors (DePratter 1979:119).

DePratter also notes that the temper in the St. Catherines pottery consists of "crushed sherd or crushed low-fired clay fragments" (DePratter 1979:131). One of the few studies of prehistoric temper which involved detailed chemical and petrographic analyses included a sample of six St. Catherines sherds (Donahue et al. n.d.) The study found that the trend toward decreasing grain size of the aplastic component, begun in the Middle Woodland, continues into the Late Woodland. In contrast, the grog inclusions are coarse, ranging from about 2 to 3 mm, and they contain quartz grains (perhaps reflecting the temper of the crushed sherds).

More recent investigation of St. Catherines pottery in South Carolina found that while there is considerable variability in both size and frequency of temper, there is no compelling evidence that sherds were being crushed and used as temper. The most likely explanation for the observed similarity of both paste and temper is that the temper represents dried lumps of clay which have been incorporated back into the clay during the forming of vessels. On the other hand, the

same study also found that there appear to be distinct chemical differences between the paste and temper. This suggests that the dried clay used as tempering was perhaps "left-over" from earlier potting episodes (Trinkley and Adams 1994:58-60).

Although the conventional wisdom is that the St. Catherines phase drew to a close around A.D. 1150, there is mounting evidence that the phase may extend into the thirteenth or fourteenth century A.D. (see Trinkley and Adams 1994:108-110, 114-115). There may be a blurring of Middle and Late Woodland lifeways well into later periods. The resulting cultural conservativism may help explain the presence of relatively few large Late Woodland villages and the apparent absence of corn agriculture until very late along the coast.

On the coast, Hopewellian influences may be more obvious than originally thought, if the multitude of sand burial mounds being investigated by the American Museum of Natural History are as early as reported. For example, the investigations at South End Mound II on St. Catherines Island suggest the earliest burial, placed in a pit about A.D. 1000, was associated with a copper sheet, had copper earspools, and included a diabase-like pendant (Larsen and Thomas 1986:25).

Moving away from the coast and into the inner Coastal Plain there is considerably less data. It is difficult, for example, to determine how far inland St. Catherines wares are reported, or if they exist at all. Once again relying on Snow's examination of the Ocmulgee Big Bend area, there is no evidence of St. Catherines pottery. Instead, it seems that the cord marked Ocmulgee wares fill the gap. Snow even mentions that his Ocmulgee III pottery, which is found with small triangular points, shows "some traits suggestive of closer ties with coastal Savannah II Cordmarked ceramics" (Snow 1977:43), suggesting that the Ocmulgee II wares may be Late Woodland. This may help explain why no St. Catherines sites have been found at Fort Stewart (Campbell et al. 1996:60), although clearly the lack of detailed surveys cannot be ignored.

Better known is the Swift Creek Phase, often viewed as either late Middle Woodland or Late Woodland. Swift Creek materials extend from the Gulf of Florida, where the phase was first popularized (Willey 1949:378-383) into the coastal plain and piedmont of Alabama, Georgia, and South Carolina. Diagnostic artifacts include pottery with intricate, well-executed, curvilinear complicated stamped motifs (for a brief synthesis of the Swift Creek wares, see Williams and Thompson 1999:122-125). Also present are occasional suggestions of Hopewell ritual, especially among the burials. Sites include semi-permanent villages, some with burial mounds and occasionally small platform-like mounds, as well as small camps (Jefferies 1994; Keller et al. 1962; see also Sears 1956:53-54 and Sassaman et al. 1990:205-206 for regional overviews). Although there are few appropriate local studies, Snow does illustrate a number of early and late Swift Creek sherds from the Ocmulgee Big Bend area (Snow 1977:Figure 6a, 7a, 7b). This suggests that Swift Creek phase sites may be found in the Fort Stewart area.

South Appalachian Mississippian

As Schnell and Wright (1993:2) observe, "Mississippian" means different things to different people — even to its earliest researchers. To Willey (1966) it meant a particular group of traits. To Griffin (1985) it meant a complex social and technological interaction sphere. To Smith (1986) it was defined as an adaptive strategy. The meaning is further distorted, or at least affected, when the issue is viewed from a strict temporal or chronological orientation, such as this presentation (since to us, the period covers the period from about A.D. 900 to A.D. 1500).

The Mississippian is viewed rather basically by Campbell et al. (1996:61-62). They focus on a simple coastal chronology based almost entirely on the results of excavations at Irene (Caldwell and McCann 1941) and the resulting synthesis by DePratter (1979:Table 30; 1991:183-193). In this scenario the Savannah Phase, consisting of three subphases, is followed by the Irene, broken into two subphases. While following essentially the same sequences, Anderson (1994:366-368) provides considerably more detail.

The Savannah, characterized by cord marking,

is seen as developing from earlier cultures. Present are flat-topped temple mounds, although these are seen by some researchers to be less common in the Altamaha region. While the settlement system is very similar to that of the Late Woodland, there are also nucleated settlements found near estuaries and along freshwater rivers further inland. Although agriculture is seen by many as almost essential, there is no good evidence for corn or other domesticated crops.

Savannah II is distinguished by the introduction of check stamping and Savannah III is defined by the presence of complicated stamping. The Savannah III Complicated Stamped pottery is primarily curvilinear, often of concentric circles or oval motifs. Sassaman et al. (1990:207) suggest that the current temporal ranges are likely too restrictive for these subphases and suggest instead broader period of perhaps A.D. 1100 to 1200 for Savannah II and perhaps A.D. 1200 to 1300 for Savannah III.

The Savannah Phase, according to Campbell et al. (1996:64), is the best represented of any period at Fort Stewart, with 35 sites producing Savannah pottery. They also note that not only are the sites more numerous, but the collections from the sites are larger, "suggesting that the Fort Stewart/Hunter Army Airfield area was a place more heavily occupied by Savannah populations than the earlier groups discussed above (Campbell et al. 1996:64). Most important among the Savannah sites appears to be the Lewis Mound (9BN39) and associated habitation area.

The Savannah phase gives way to what is often called the Irene Phase, probably beginning about A.D. 1300. The Irene I Phase is identified by the appearance of Irene Complicated Stamped pottery using the filfot cross and line block motifs. Not only are these motifs different from the earlier Savannah Complicated Stamped designs, but the Irene ware is characterized by grit inclusions and a coarse texture, compared to the Savannah's sandy inclusions and fine to medium-grained paste.

Also present in Irene collections are a range of rim decorations, including nodes, rosettes, and fillet appliques. Although incising is found in very low quantities during this early period, the succeeding Irene II phase is characterized by bold incising. The mouth of the Savannah River, however, was likely abandoned by the end of the Irene I Phase since little incising is found in this area. Anderson (1994:290-294) provides a detailed discussion of the collapse and abandonment of the Irene site, focusing on the dramatic changes and their meaning in a broader socio-political context.

Larson (1955) sought to distinguish his central coastal Pine Harbor incised material from the Irene wares of the northern coast. Braley (1990:98) suggests that the Pine Harbor material is both geographically and temporally distinct from Irene. He also suggests that the presence of the Pine Harbor Phase on the middle coast may help explain the apparent abandonment of the Savannah area, suggesting that the coastal groups shifted southward in order to make themselves more accessible to the interior Oconee chiefdoms (Braley 1990:99).

The situation, however, become considerably more muddled when the view is shifted inland — to the Pine Barrens in the vicinity of Fort Stewart, for example. Schnell and Wright explain that "almost nothing can be found in the literature" (Schnell and Wright 1993:41).

Using data from several Ocmulgee Big Bend sites, they note that there is a small collection of cord marked pottery, sometimes incorporated in an assemblage of plain and roughened wares, which dates from perhaps A.D. 800 to A.D. 1400 — falling within the temporal limits of the Mississippian. They note that Crook, who defined a Middle Ocmulgee Phase dating from A.D. 200 to about 900 and a Late Ocmulgee Phase from about A.D. 900 to 1600, distinguishes the two by increasing frequencies of triangular points and cord marked pottery. They also note that Crook suggests these occupations are associated with "conservative" cultural adaptations — an argument similar to that advanced for the late occurrence of St. Catherines wares along the South Carolina coast.

Snow, also exploring the Ocmulgee and Satilla river drainages, defines what he calls the Square Ground Lamar ceramic assemblage which apparently is coeval with late Irene (Snow 1990). Prior to this, the area is

apparently dominated by the cord marked Ocmulgee III pottery. The Square Ground wares have 10 to 12 incised lines around the rim and below a stamp consisting of a central dot with four lines radiating out. Each of the resulting four quadrants is usually filled with chevrons (Snow 1990:Figure 5). He suggests that the "Square Ground Lamar pottery may equate with [the] Hitchiti people" of the lower Ocmulgee (Snow 1990:87).

The simple importance of these discussions is that there is far too little information presently available to allow any clear or certain understanding of what may be present in Fort Stewart area. Consequently, while Campbell et al. (1996:68) note that only four Irene sites have been found at Fort Stewart, it seems premature to argue that Lamar influences are rare, or that the Pine Barrens were deserted, or even sparsely occupied.

Protohistoric and Historic Contact

The Protohistoric ceramic assemblages along the immediate coast are typically identified as Altamaha (DePratter 1979), King George (Caldwell 1943), San Marcos (Smith 1948), and Sunderland Bluff (Larson 1978). The period is often dated from about A.D. 1550 to 1700, although Green (1991:106) argues that minimally it should be extended to 1715 in order to include the Yemassee-produced pottery of South Carolina and perhaps even as late as 1763 to coincide with Smith's (1948) St. Augustine period.

Regardless of precise dating, the ware is thought to include complicated stamping (including rectilinear and curvilinear motifs), check stamping, incising, plain, burnished plain, and a red filmed ware. Green suggests a continuum from Irene to Altamaha. Vessel forms include jars, bowls, plates, and pitchers. Some include strap and loop handles as well as foot rings, clearly revealing a strong European influence. The San Marcos pottery is associated with limestone tempering, while the Altamaha and King George wares exhibit fine grit or sand.

Snow (1990:92-93) reports a dramatic decrease in the number of Altamaha sites compared to the preceding Square Ground sites in the Pine Barrens of the Ocmulgee Big Bend area. He also notes that in addition to Altamaha ceramics, there are also examples of "Miller ceramics from the Apalachee region of northwest Florida," "a smoothed-over check stamped ware, similar to Leon Check Stamped from mission sites in north Florida" and even "Ocmulgee Check Stamped known from the Macon Plateau site." Also present are "European trade items such as glass beads and copper" (Snow 1990:93). All are representative of European contact and suggest that there was considerable movement late in the history of the region. From the historic period, Snow reports the presence of both Ocmulgee Fields, Chattahoochee Brushed, Mission Red Filmed, and Leon-Jefferson Complicated Stamped pottery — all presumably associated with Creek sites (Snow 1990:93). Unfortunately, little more than the presence of these various wares is known about the historic or contact period sites in the area.

Historic Overview

The Native American population of southeastern North America first encountered Europeans during the 1539-1542 Spanish expeditions of Hernando de Soto. It was shortly after that, in 1566, that the Spaniard Pedro Menendez de Aviles, founder of St. Augustine, met with the Guale Indians on St. Catherines Island and established a small outpost and mission on the island (Coleman 1960:1; see also Jones 1978). Georgia's coast began to export grain and citrus fruits and by the early 1600s, missions were well established in fertile south and central Georgia (Hodler and Schretter 1986:70; see also Thomas 1987 and Larsen 1990).

By 1663 the ownership of lands within the confines of Georgia would become the center of great debates, dialogues, and eventually armed combat between Spanish and English interests. In granting the Carolina colony, Charles II had established that Spanish-held St. Augustine would constitute the southern boundary of the colony. With the presence of Spanish presidios and intensified English trading with Native American populations going on in the lands between Charles Towne and St. Augustine, tensions mounted between the two European powers.

The Origins of Georgia

The settlement of the Georgia colony is attributed to a perceived need by the English Crown to establish a military buffer zone between Spanish lands to the north of the Altamaha River and the English settlement of Charles Towne along the Atlantic coast of present day South Carolina (Coleman 1960:2). There was, as well, a strong Carolinian interest in tapping Georgia's potential for the deer skin trade and the use of Native Americans in military alliances against the other European powers. By effectively placing these lands under one sovereign, i.e., England, a number of these problems between England and Spain would be resolved.

The charter for the Georgia colony was granted in July of 1732, and by November James Oglethorpe set sail from England with the first shipload of colonists (Coleman 1960:5; DePratter and Howard 1980:42). South Carolina had relinquished territory to create Georgia and the new colony's original western boundary was the "South Seas," or the Pacific Ocean. By 1763, the boundary became the Mississippi River and, in 1802, Georgia ceded to the United States what would become Mississippi and Alabama and assumed its present form (Hodler and Schretter 1986:71).

The original settlers, numbering from 114 to 125 souls, established a settlement 29 km from the coast along the Savannah River on Yamacraw Bluff on February 12, 1733 (Coleman 1960:5; DePratter and Howard 1980:42; Hvidt et al. 1980:35).

Although Oglethorpe was appointed as representative for the colony's Trustees, he actually held no legislative or authoritarian powers over the colonists. Yet, he attempted to establish the Georgia Colony in a more philanthropic manner than its neighboring colony of Carolina to the north (Coleman 1960:8). Oglethorpe's philanthropic views may have been in direct response to problems encountered by the Carolina Proprietors. The trade in deer skins and the use of Native Americans as slaves during the early colonial period had caused personal and political problems for South Carolina's elite rulers (Barr 1996). Oglethorpe hoped to eliminate this and problems associated with the ownership of African American slaves within the Georgia colony.

While South Carolina became quickly dominated by large plantations, primarily indigo and rice, which operated under the forced labor of thousands of African Americans, Oglethorpe envisioned a "kinder and gentler" colony of small land owners growing a broad range of crops. He foresaw land granted in small parcels and both slavery and rum were outlawed in 1736 (DePratter and Howard 1980:43).

Unfortunately Georgia was unable to retain its vision as a colony of sober men living off their own labor and rewards contributed through the working of small farms. Changes within the colony's structure were already evident when, in 1743, Oglethorpe was replaced by the Board of Trustees for the colony with William Stephens. As early as 1740 maximum land holdings were increased to 2000 acres, allowing the formation of small plantations (DePratter and Howard 1980:44). By 1750 the ban on the importation of slaves was dropped. Elite land owners and investors from South Carolina began to purchase lands along the Savannah River (Rowland 1987), and the timbre of Georgia society began to change. By 1750 African Americans constituted one third of Georgia's 3,000 residents (Coleman 1960:11).

In 1752 the Royal trusteeship charter expired and Georgia became a crown colony. In 1758 the Georgia Assembly established a governmental framework as part of the official church act. The province was divided into eight parishes (W.P.A. Writers' Program 1990:39. The tract which is today Fort Stewart lay primarily in the parishes of St. Johns and St. Phillips, with some western portions falling into St. Andrews Parish (Campbell et al. 1995:73).

The 1740s and 1750s were a period of growth in Georgia. Under the influence of her neighbor to the north large plantations began to dot the landscape. The introduction of upland and intertidal rice agriculture, the advent of indigo production, and the naval stores industry, brought on by world wide military and economic events (Barr 1996; Coclanis 1989; Weir 1983), would rapidly move Georgia into the mainstream of southern plantation agronomic

production. Prior to the grant for the Georgia colony, bounties were offered by England's parliament to encourage the growth of indigo and the production of naval stores. In 1766 the Georgia assembly, in an effort to infuse the naval stores industry, passed legislation which specified standards and volumes for the industry (Thomas 1975:2). This would enable Georgia to compete with world markets. Eventually Georgia evolved into a significant colony in its own right.

By 1776, Georgia retained very little of its pre-colonial concepts and contained a population of 40,000 to 50,000 people. Approximately half of that number were African American slaves (Coleman 1960:13; DePratter and Howard 1980:44).

Liberty County was established in 1777. At that time it included a part of present-day Bryan and Long counties, as well as all of McIntosh County. This area was settled early during the proprietary period, most notably by South Carolinians. Puritans from the abandoned town of Dorchester, South Carolina established the river port of Sunbury for the growth and export of rice, indigo, cotton, and lumber (Looper 1982:2, Groover 1987:33-34).

Economic factors had also come into play concerning the inland agricultural development of the colony. The inland areas of the state were considered better suited for the cultivation of upland cotton as opposed to rice, indigo, and sea island cotton, which were the staple crops grown along the coast. The relative position of Liberty County in the flat pine lands of Georgia allowed the area to rapidly diversify its agricultural base. Initially, the milling of lumber and the naval stores industry were important economic commodities (Groover 1987:33-34).

According to Herndon, "in the last two decades before the Revolution Georgia exported over 21,000,000 feet of lumber, 10,000,000 staves, and 36,000,000 shingles" to England (Herndon 1968:427). As well, both inland and intertidal rice, indigo, and long and short staple cotton were early crops. With the invention of the cotton gin by Eli Whitney in Savannah in 1793 new impetus was given to the commercial growth and export of upland cotton.

Yet, it was principally because of the early diversification of Liberty County's agricultural base that the naval stores industry remained in its infancy. The relationship between the naval stores industry and the production of other agricultural commodities is best explained by Hernden (1968) who states that:

> [a]n examination of the manner of producing turpentine, tar, and pitch will indicate the relationship between the production of naval stores, the expansion of the rice and indigo plantation, large and small, and the lumbering industry. Of the three products that constituted the naval stores industry turpentine was of least interest as Colonial Georgia exported less than one-seventh as much turpentine as tar and pitch. Turpentine is a sap of the pine tree obtained by making incisions, or boxes, at the base of the trunk of the tree. These boxes were usually made in January and February and the ground at the foot of the tree was cleared of leaves, brush, and undergrowth . . . Around the middle of March the sap began to distill, circulation commenced and increased as the weather became warmer; the sap boxes had to be emptied five or six times or more per season and the upper edge of the boxes chipped each week to keep the sap running. When the chill of the frost severely checked the circulation the operation was discontinued and the remainder of the year was spent in preparatory labor for the following season. The production of turpentine was a year round job rather than merely a wintertime activity and since a tree produced turpentine for several years this activity did not in itself aid in the

> clearing of land; consequently the turpentine industry never grew past the embryo stage.
>
> The manufacture of tar and pitch were wintertime activities, provided a supplementary income, and aided in the "improving" or clearing of land. . . . To procure the tar from the wood a kiln was prepared in the following manner: the wood was cut into pieces two are three feet long and about three inches thick and stacked on a raised concave earthen mound, the center of which was connected to a ditch or hole on the outside by a conduit; the pile of wood was covered with a layer of pine leaves and earth and a fire started at the top of the kiln. The fire was allowed to penetrate to the bottom with a slow and gradual combustion, which forced the tar from the wood causing it to run down to the bottom of the kiln and out into the ditch or hole. The kiln was watched day and night while burning to keep the fire from breaking out and consuming the wood without producing tar. The average yield was one barrel of tar to one cord of wood. Pitch was made from tar by heating it in furnaces or large kettles . . . (Hernden 1968:428-430).

As seen in Table 12 the naval stores industry never became a truly viable industry during the Colonial Period. Between 1755 and 1775 Georgia exported less than 1,000 barrels of turpentine, approximately 3,000 barrels of pitch, and a little over 4,400 barrels of tar.

It was during the post-Revolutionary War period that we see considerable evolution in the establishment of Georgia's counties. As Campbell and her colleagues observe, poor transportation networks and the increased need for governmental services lead to the creation of most new counties. Bryan County was created in 1793 and Tattnall was created in 1801 (Campbell et al. 1995:98).

The Revolutionary War

Within the southern colonies the War for American Independence was similar to that of the American Civil War. Quite often family loyalties were divided between by class and family (Coleman 1960:17). Other than the capture of major population centers such as Charles Town, Savannah, and Augusta by the British, much of the war was a series of small, local engagements fought between loyalist troops and their patriot counterparts (Coakley 1989; DePratter and Howard 1980:44-45).

For most of 1779 the British held Savannah and the surrounding ground. The study area in 1779 is shown in Figure 17. In early fall of 1779 American and French troops made an abortive attempt to take Savannah. Among the 750 French and American

Table 12.
Naval Stores Exported from Georgia (1755-1775)

Yr	Turpentine (bbls)	Pitch (bbls)	Tar (bbls
1755	n/a	n/a	45
1756	n/a	n/a	n/a
1757	n/a	n/a	129
1758	n/a	n/a	n/a
1759	n/a	83	35
1760	n/a	n/a	425
1761	160	n/a	235
1762	n/a	n/a	246
1763	8	23	175
1764	19	n/a	359
1765	n/a	n/a	486
1766	82	506	723
1767	88	627	387
1768	202	496	167
1769	68	492	138
1770	103	80	105
1771	45	193	102
1772	40	364	298
1773	n/a	n/a	n/a
1774	24	40	132
1775	44	84	217
Total	877	2,988	4,404

Source: Hernden 1968:431.

casualties was Count Casimir Pulaski, for whom Fort Pulaski was named. It was not until July of 1782 that the British abandoned Savannah, ending British occupation of Georgia (Coulter 1960:146-147; DePratter and Howard 1980:45). Other nearby skirmishes include the 1776 Battle of the Rice Boats at Tybee Island and the 1778 Battle of Bulltown Swamp at Midway.

Although Oglethorpe had established a number of defensive communities west of Savannah, such as Fort Argyle on the Ogeechee River (see Elliott 1997), most of these settlements failed due to the poor agricultural conditions of the Pine Barrens and lack of communication and readily available shipping route to Savannah (DePratter and Howard 1980:43; see also Figure 40). Yet, they did set a precedent for settlement once the Revolutionary War was resolved.

After the war, land at Fort Argyle changed hands many times, until 1781, when 500 acres of land were put up for sale (Campbell et al. 1996:103). After 1800, the "Fort Argyle" was popularly recognized as a reference to the neighborhood of the old fort site (Campbell et al. 1996:104). Fort Argyle property continued to change hands until after the Civil War, when it was listed as having a population of 15 (Campbell et al. 1996:121). After the 1890s, the Fort Argyle land was used by timber and turpentine industries, and in the late nineteenth century, contained a brick factory (Campbell 1996:128-129).

With the war's conclusion, major treaties and concessions from the Cherokee and Creek Indian tribes (1782-1804) allowed the full scale development of lands within central and eastern Georgia. While these cessions have no direct bearing on our understanding of the Fort Stewart area, they are a significant aspect of Georgia history. Perhaps the most succinct overview is that offered by Green (1979:24-41). He recounts the

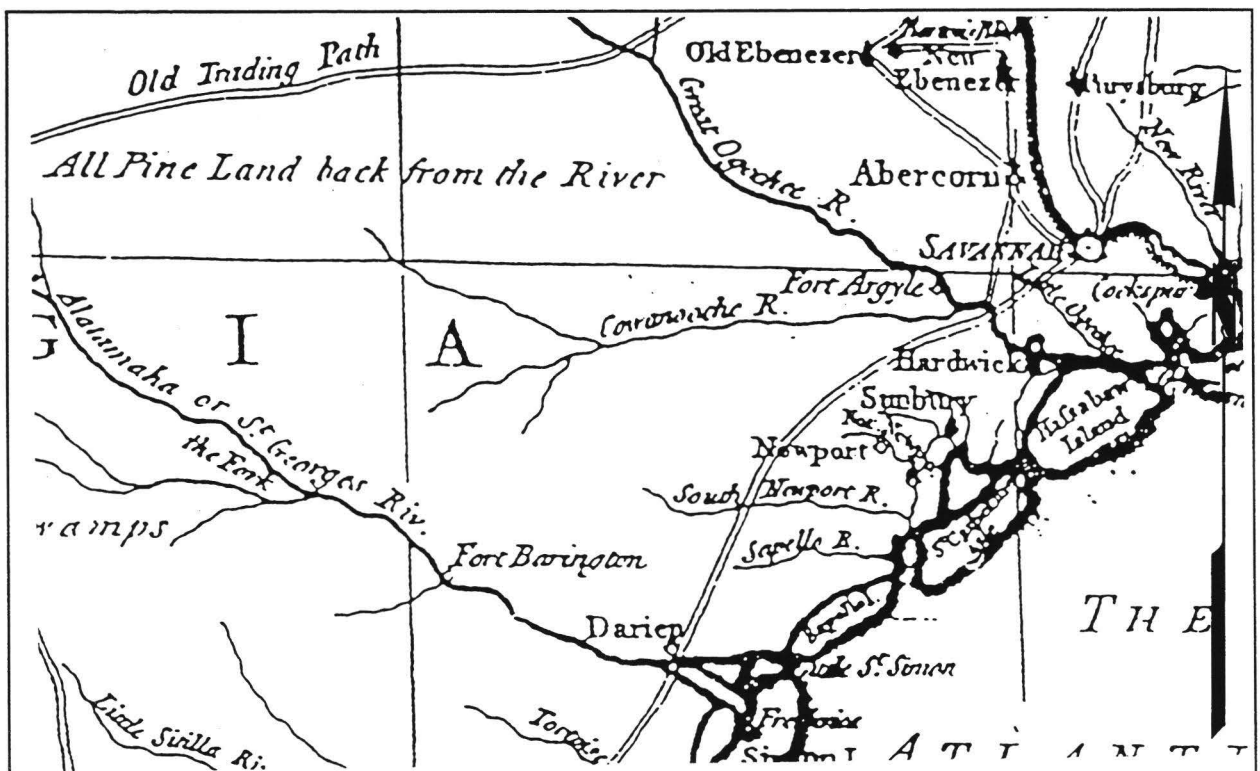

Figure 17. A portion of Hinton's 1779 *A New and Accurate Map of the Province of Georgia* showing the project area (no scale provided on original map).

early, and peaceful start of English-Creek relationships with the 1733 and 1739 treaties skillfully brokered by Oglethorpe and explores the gradual deterioration of relationships as the English greedily lusted for expansion. Green also explores the careful balance between the French, Spanish, and English which Creek sought to maintain in order to ensure their own survival (Green 1979:26). As this power balance collapsed, the English availed themselves of the Creek's weakness. Falling deeply into debt, the Creek nation ceded additional land on the Upper Savannah.

During the American Revolution the British influence among the Creeks was skillfully maintained by Alexander McGillivray, a Creek with mixed Scots and French ancestry. Even after the Revolution, McGillivray continued to be an important council to the Creeks, as they strove to balance the power of the Americans and the Spanish. By 1812 the Creeks were deeply divided by a factional conflict which escalated into a civil war between those best described as classic nativists and those who were Anglicized. This civil war became the Creek War in 1813 as those land-hungry Americans, like Andrew Jackson, looking for a reason to intervene found an excuse to wage a "just war." Tennesseans, Georgians, and Mississippians jumped at the excuse to wage a "war of extermination" in order to free additional land. After the death of at least 3000 Creek nativists, the Treaty of Fort Jackson was signed in August 1814.

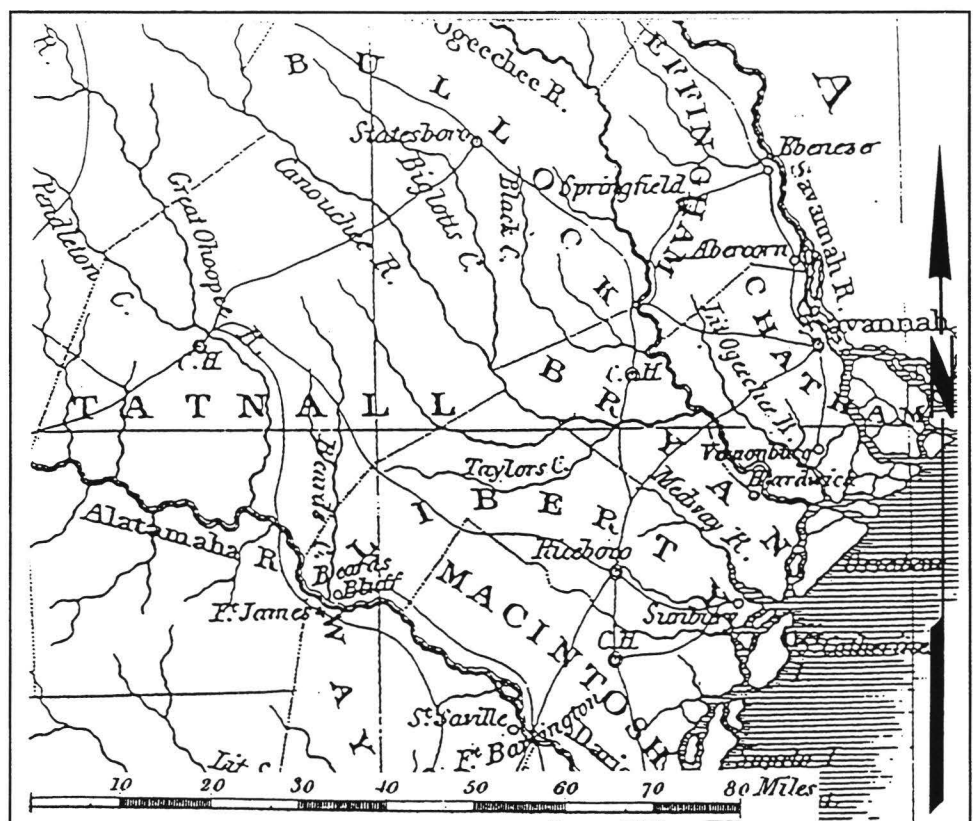

Figure 18. A portion of Finley's *Georgia* showing the project area.

The Antebellum Period

By 1820, 60% of upland farmers were growing cotton, and slavery played an ever increasing role in that growth, despite bans on slave importation during the last decades of the eighteenth century. By 1820, 44% of Georgia's population was black (DePratter and Howard 1980:45). Over 70% of the population in the area which would become Liberty and Long counties were former African American slaves. Further inland, in the "Pine Barrens," the proportion of slaves dropped to less than 10% (Hilliard 1984:Map 30).

During the antebellum Georgia began to increase its economic share of the American export market. The forced removal of all Native Americans from the state in 1838 accelerated the settlement of interior lands (DePratter and Howard 1980:45).

Already established river and road transportation networks (Figure 18) were augmented by railroads which connected Georgia's major port city, Savannah, with other major urban centers within the state and region. By the time of the Civil War, railroads connected Savannah to Augusta, Macon, and Waycross. Waycross provided access to coastal Brunswick and Atlanta was accessed by both Augusta and Macon. Branch lines tied together Athens, Columbus, and Albany, and Dalton in the northwest corner of Georgia.

With the advent of industrialization Georgia's economic base began to diversify. Textile mills, tanneries, lumber mills, and turpentine distilleries became established throughout the state.

In 1850, Liberty County had a population of 2,020 whites and 5,908 black slaves. The population, however, had increased by only 9½% from 1840. There were 244 farms, incorporating 38,563 improved acres and 303,518 unimproved acres, for an average farm with 158 acres of improved land valued at $3,317. The county boasted 1,100 horses, 15,450 mules, 4,609 sheep, and 10,006 swine. Agricultural products included 2,116 bushels of wheat, 21,432 bushels of rye and oats, 297,614 bushels of corn, 72,318 bushels of Irish potatoes, 26,470 bushels of peas and beans, 40,225 pounds of butter, 24 hogsheads of cane, 11,640 gallons of molasses, 1,892,462 pounds of rice, 1,883 bales of ginned cotton, and 8,865 pounds of wool. The 1850 census reported that slaughtered animals were valued at $28,557. These figures, however, are misleading, since they lump together the large, wealthy rice plantations (which gave "Riceboro" in southern Liberty County its name) with the smaller, subsistence farms which bounded Taylors Creek and its drainages. For example, deeper in the "Pine Barrens," Tattnall County had a population of 2,378 whites and only 831 black slaves. The county's 327 farms included only 14,244 acres of improved land, for an average of 43.6 acres per tract. These farms produced only 47,800 pounds of rice and 321 bales of cotton (DeBow 1854:210-217).

Turning to the Liberty County's industrial development, the county contained only $4,950 of invested capital and only 24 hands were employed. The annual product was estimated at slightly over $7,000. Although unknown, it is assumed that a portion of this invested capital was in the form of copper stills, acquired from the Scotch liquor industry, for the distillation of turpentine. Employment figures would not be reflected in these figures, for by the 1840s and 1850s it became common for slave labor to be used in the cutting of trees and the collection of gum (Thomas 1975:3-4).

The Civil War

The advent of the Civil War and its after effects would haunt the state of Georgia for years. Seceding from the Union on January 19, 1861, Georgia followed South Carolina, Mississippi, Florida, and Alabama into the folds of the confederacy. Georgia, especially, had taken the hard road and "soon found itself in a war from which it would not recover for decades" (DePratter and Howard 1980:46). Georgia's Alexander Stephens became Vice President of the new Confederacy and Robert Toombs was made Secretary of State.

The war began easily for Georgia. In January 1861 a band of Georgia volunteers sailed down the Savannah River to capture Fort Pulaski. At the same time Atlanta began to increase in importance. In the 1850s the town was described as a "sorry-looking place, always associated in my mind with rain and super abundance of red-clay mud" (quoted in Lane 1993b:x). The population increased from about 2,500 in 1847 to over 11,000 in 1860 to more than 16,000 before the war's end. The Confederates also easily seized the Union arsenal at Augusta and the mint at Dahlonega (DePratter and Howard 1980:46). Additional arsenals were established in Atlanta, Savannah, Macon, August, and Columbus. The state penitentiary at Milledgeville was converted into a rifle factory and the Athens Foundry became a cannon factory.

These gains were quickly offset by the Union blockade along the coast in late 1861 and the fall of Georgia's coastal island fortifications in March of 1862. Fort Pulaski on Cockspur Island was retaken by Federal troops in April of that year (for a review of the

historical documents associated with this event, see Anderson 1995). The loss of Fort Pulaski effectively closed the port of Savannah to all those but the hardiest blockade runner. Cut off from the sea, new batteries were thrown up around the cities and paving stones were ripped up from the streets to serve as ballast to sink obstructions in the river.

Other coastal engagements included minor battles at Whitemarsh Island in April of 1862 and Fort McAllister in March of 1863 (Lane 1993b:xi). Additional Union incursions occurred in June 1863 when the bridge over the Turtle River near Brunswick was destroyed and in July when the coastal town of Darien was burned.

Except for Fort McAllister on the Ogeechee River, all of coastal Georgia was under Federal control. It wasn't, however, until early 1864 when Confederate troops began to build obstructions *above* Savannah that the city's citizens began to realize both that they were being abandoned and also that the war was lost.

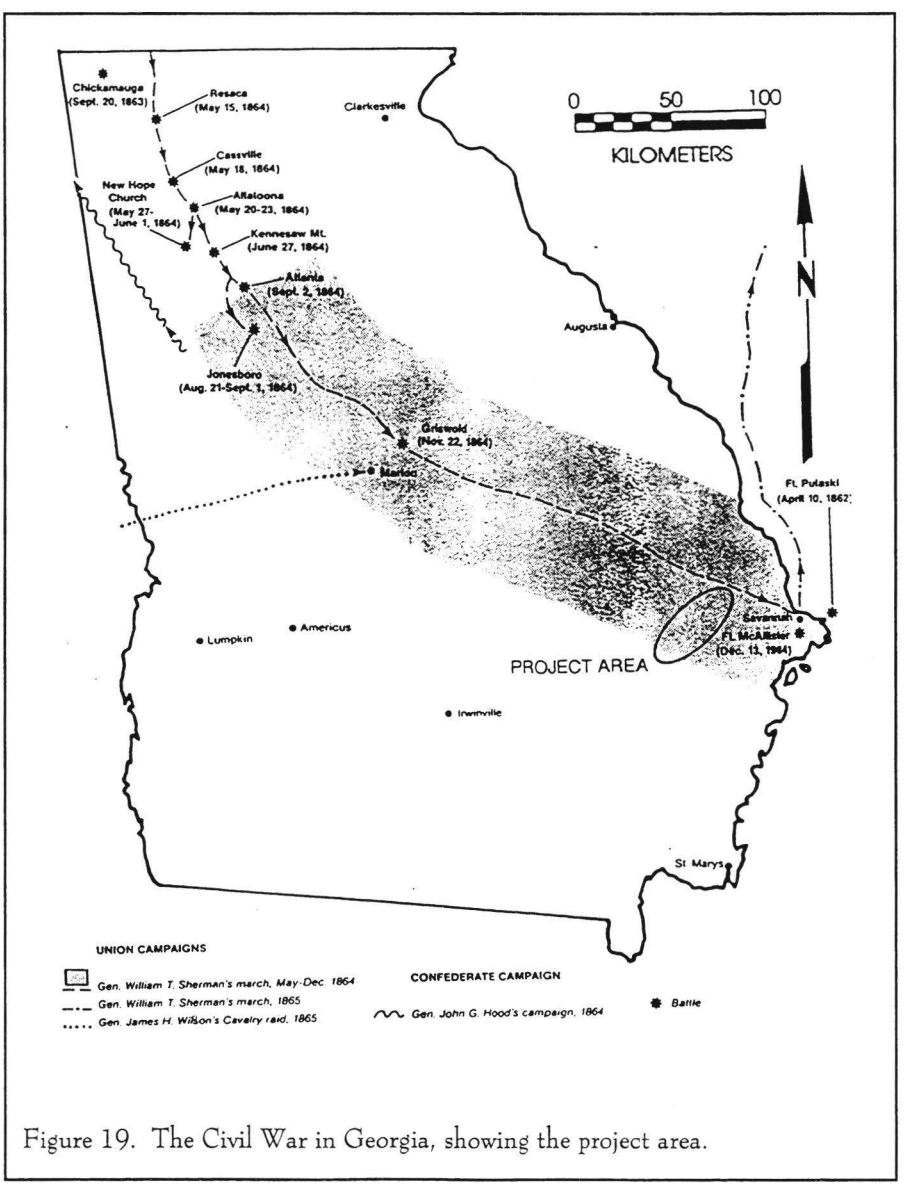

Figure 19. The Civil War in Georgia, showing the project area.

In May 1864 the interior of Georgia felt the full brunt of the war (Lane 1993b:xi). That Spring, General Sherman left Chattanooga and began his long fight to the sea with an army of 100,000 Union troops (Figure 19). Following the route of Western and Atlantic Railroad, Sherman faced Confederate forces of about 41,000 troops commanded by General Joseph E. Johnston and later by General John B. Hood. While initially stymied, Sherman managed to outflank the Confederate positions, forcing them into Atlanta's trenches. After forty days of bombardment, part of the Union forces swung south of the city, threatening Confederate supply lines to Macon. At that point, on September 1, Hood evacuated Atlanta. From May to September, 4,988 Union soldiers and 3,044 Confederates were killed in Georgia. Those hospitalized from malaria, typhoid fever, diarrhea, dysentery, measles, and other diseases accounted

for an additional 46,000 Confederate troops and nearly 63,000 Union soldiers.

After taking Atlanta in September 1864, Sherman's route to Savannah lay open. He wrote his wife, "We have devoured the land. All the people retire before us and desolation is behind. To realize what war is one should follow our tracks" (Lane 1993b:xiv). By November 16th, Sherman was done with Atlanta and had to decide whether he would retreat to Tennessee or continue his march to Savannah. By taking Savannah, Sherman would be able to create a new base on the Atlantic coast which would decrease the length of his supply line (Nevins 1971:158). This would assist him in his move north to harass Lee's rear lines south of Petersburg. It was also Sherman's intent to live off the land and by doing so, destroy as much food, munitions, and infrastructure as he could, thus eliminating the threat posed by Johnson and Hood's wide ranging armies.

Sherman left Atlanta with 60,000 infantry and 5,500 cavalry. He would lose less than 850 men during his operations within central Georgia and the capture of Savannah (Nevins 1971:158). His troops covered an area approximately 96 km wide and 400 km long throughout the Georgia countryside (Nevins 1971:158). "Sherman's line of march followed the Georgia Central Railroad, covering a wide belt on either side, and east, of Louisville . . . between the Ogeechee and Savannah Rivers" (Guernsey and Alden 1977:686 [1866]). Sherman's right wing:

> commanded by Major-General Oliver Howard, moved through Jonesboro, Monticello, Gordon, [and] Irwinton. The left wing under Major-General H.W. Slocum headed to Covington, Madison, Eatonton, [and] Milledgeville. Brigadier-General Judson Kilpatrick led a cavalry which struck toward Macon, fell back to Gordon and rejoined Sherman at Milledgeville (Lane 1993b:xvii).

By November 22 Sherman's army had captured the state capital in Milledgeville and had crossed the Ogeechee by the end of November (Figure 20). One account, of Mary Jones of Liberty County, expressed the anguish of local residents:

> Clouds and darkness are around us. The hand of the Almighty is laid in sore judgement upon us. We are a desolated & smitten people (Lane 1993b:220).

Sherman faced little resistance and finally captured Savannah from the west on December 21, one day after the city was abandoned by the Confederacy.

Campbell et al. (1996:117) note that Union troops visited Fort Argyle, the nearby area of Dillon's Ferry, and the Canoochee River Bridge below Eden and Taylors Creek. They observe, however, that there is no mention of the Taylors Creek community. At nearby Bryan Courthouse (Eden), the Union military erected earthworks, while other regiments spread out to defend their new territory (Campbell et al. 1996:118).

The damage done by Sherman's armies to Georgia's agriculture and industrial infrastructure in thirty-four short days would take decades to overcome. Sherman estimated the damage to the state during his campaign as "fully $100,000,000.00 one fifth of which had been of use to [the] army, and the rest shear waste and destruction" (Guernsey and Alden 1977:690-691 [1866]; Nevins 1970;159). Between Howard's right wing and Slocum's left wing, the Union army, during the campaign from Atlanta to Savannah, set free over 3,000 African American slaves, confiscated over 26,500 head of cattle, 6,171 horses and mules, 10.5 million pounds of grain and corn, 10.5 million pounds of fodder, over 43,000 bales of cotton, and destroyed over 310 miles of railroad to where "scarcely a tie or rail, a bridge or culvert," remained in central Georgia (Guernsey and Alden 1977:692 [1866]; Nevins 1971:159). Various support industries were also destroyed. These included "machine shops, turn-tables, depots, water-tanks, cotton gins and presses" (Guernsey and Alden 1977:692 [1866]). Brigadier-General Kilpatrick's operations would add 14,000 bales of cotton, 12,900

bushels of corn and 160,000 pounds of fodder to Howard's and Slocum's totals.

By April of 1865 the war would be over but, because of Sherman's army and its destruction, life, as it had been known to the residents of central and coastal Georgia, ended in December 1864. Campbell and her colleagues provide an overview of the impact the Civil War had on the local residents. Here, like in many other small Southern communities, Sherman and his troops tend to be vilified (Campbell et al. 1996:118).

Sherman's march through Georgia, however, had other affects on history. As Sherman marched through Georgia, many slaves deserted their plantations and sought refuge with the Union forces. In what may have been a wise military decision, Sherman made a very poor political judgement, turning most of these freedmen away. Large numbers were re-enslaved by the remnants of the Confederate Army — creating a major political scandal for President Lincoln (Friedheim and Jackson 1996:132).

Lincoln dispatched Secretary of War Edwin Stanton to Georgia to investigate the situation. After meetings with a number of African-American ministers in Savannah, Sherman issued his famous Field Order Number 15, which set aside almost a half-million acres of captured Confederate land, dividing it into small plots for freed slaves. Although this approach satisfied the needs of the immediate political situation, as Willie Lee Rose discusses at length, the North would eventually turn their back on Southern blacks and relatively little of this acreage would actually be distributed (Rose 1964:328ff).

The combined force of Sherman, coupled with the increasing number of freed blacks and the use of black troops by the North, resulted in the call by Jefferson Davis, president of the Confederacy, for the recruitment of slaves into the Confederate Army, offering them both pay and freedom. This proposal was passed by the Confederate Congress in early 1865. As Friedheim and Jackson note, "the fact that the South was freeing African Americans in order to save the Confederacy was one last bit of dramatic evidence that its war to preserve slavery was all but lost" (Friedheim and Jackson 1996:133).

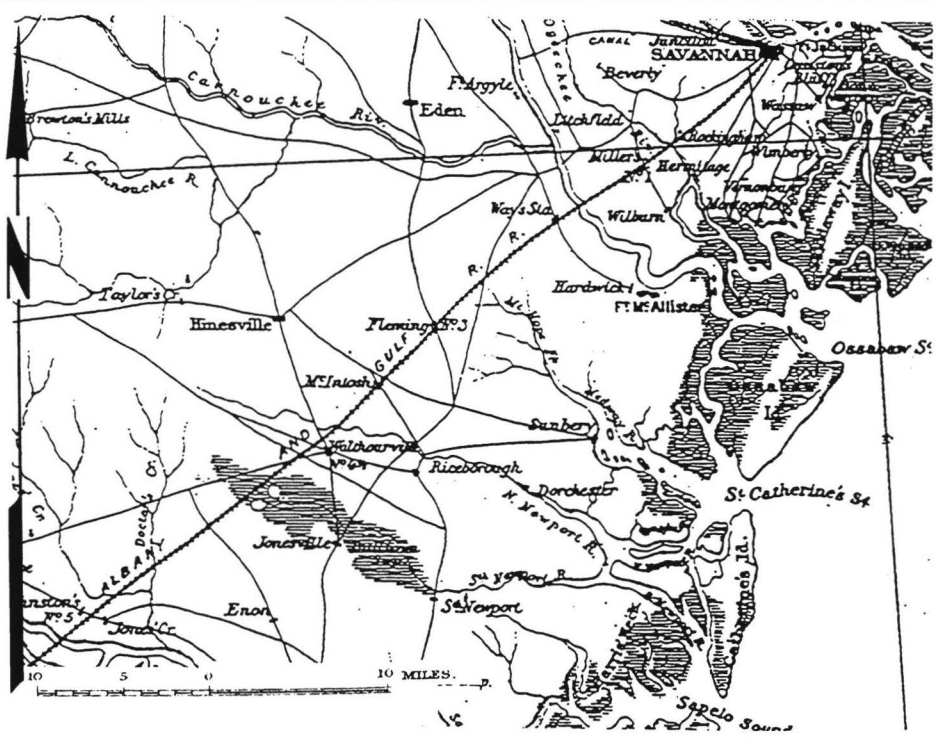

Figure 20. The project area in 1865 (adapted from *Atlas to Accompany the Official Records of the Union and Confederate Armies*, Plate CCXLIV).

Reconstruction

The postbellum period within Georgia was difficult for the state and its residents. Economic recovery from a devastated industrial and agronomic base, as well as inter-related transportation systems, would affect Georgia's recovery until the 1890s. The problem was compounded by nationwide depressions that lasted from 1873 to 1878 (DePratter and Howard 1980:46).

While Sherman left Georgia in January 1865, it was June of that year before Federal authority was extended from Macon and Savannah throughout the rest of the state. In May 1865 President Andrew Johnson proclaimed James Johnson, a lawyer from Columbus, the provisional governor of Georgia. A convention of "loyal" Georgians repealed the secession ordinance, abolished slavery, and repudiated the Confederate debt in October 1865. A new governor, Charles Jenkins, was elected and the new legislature ratified the Thirteenth Amendment and passed additional laws to guarantee the liberty of the freedmen.

Congress, however, reacted angrily to Southern excesses and passed a military reconstruction act in March 1867. Georgia's new government was abolished and the state returned to military rule. State government was again reorganized, only this time there were even more blacks and fewer whites in the legislature.

In April 1868 Rufus Bullock was elected governor and in July a new legislature ratified the Fourteenth Amendment. The state capital was moved from Milledgeville to Atlanta. But by December 1869 Congress once again became outraged by the excesses of the Ku Klux Klan and re-established military rule, again "re-organizing" the state government. Under this third government, the Fifteenth Amendment was ratified and Georgia was finally readmitted to the United States in July 1870.

Economic and Political Reorganization

While the political future of Georgia was in upheaval, an effort was made to restore some degree of the state's agricultural prosperity. Freedmen often returned to the plantations to work under white bosses rather than white owners, and were still tied to a task system. Owning no land, freedmen and landless whites formed the nucleus of a relatively new labor system of tenancy. This new labor system grew dramatically, rising from about 53% in 1890 to over 65% in 1910 and peaking at about 68% in 1930 (Coleman 1991:259). The number of farm units increased from 224,00 in 1900 to 310, 132 in 1920, with the average size of the farm unit dropping from 117 acres to only 82 acres.

While there were a variety of systems, tenants usually paid either a cash rental or became sharecroppers who divided their crop with the landlord in return for the ability to work a portion of the plantation. Interestingly, not only did the proportion of black farmers in the flat pine lands decrease substantially between 1899 and 1910 so did the rate of tenancy. Although the rate of tenancy was double that for blacks than whites (24% as compared to 41.9%), statistically the flat pine lands held the lowest number of white tenant farmers and other than the flat pine lands, only the lower coastal plain contained fewer black tenants than any other portion of the state (Harper 1922:329, 332, 358).

Cotton continued to be the major focus of agricultural efforts — offering white land owners with their only hope for economic revival. Just as "King Cotton" drove the South to the Civil War, it served to nearly ruin any chance the South had to revitalize itself after the war. Although over half of the total value of Georgia's agricultural production was wrapped up in this one product, in the pine lands only corn production (by 30%) exceeded the values of cotton (Harper 1922:341).[3] The overall dependence on cotton was the result of a number of different factors. Kenneth Coleman, for example, notes that force of habit keep many farmers growing cotton — they simply didn't know any other crop. Many, he observes, didn't have

[3]As stated by Harper (1922) it should be noted that "acreage and yield fluctuate from year to year, and the census year may have been abnormal in one way or another, so that figures should not be taken too literally" (Harper 1922:341).

either the education or financial resources to diversify (Coleman 1991:257). Of equal importance was that with small, and concentrated urban populations, markets for fresh produce were limited. This, coupled with the very poor transportation network crippled efforts to engage in truck farming until the Second World War. Even as late as 1930 only 6% of Georgia's farmers lived near paved roads.

The reliance on cotton, combined with the debilitating effects of the Civil War, created an intricate web of dependency between tenants, land owners, and merchants. After the Civil War the crop lien system emerged as the only viable source of short-term credit. By the 1890s the system had expanded to the point to trapping between 80 and 90% of Georgia's farmers. In order to obtain credit for planting, or sometimes for even living, a farmer obtained a lien on his ungrown crop from the furnishing merchant. These merchants, themselves living on very little hard cash, undertook to finance what were often risky farming efforts. Consequently they typically charged from 25% to as much as 75% interest on their loans under the crop lien system.

In the project area Campbell et al (1996:119) observe that agricultural production was low, livestock herds were small (probably still suffering from the Civil War at least a decade and a half latter), and the farms were typically small. The agricultural censuses for the Fort Stewart area, revealing increased numbers of small farms, parallel those for much of adjacent South Carolina. Campbell and her colleagues suggest the census records are documenting the small land holdings of freedmen — which is very likely.

The Liberty County Grange association toured the Taylors Creek area in 1876, documenting the small farms typical of the area (Campbell et al. 1996:120). Of the 17 examined farms, 14 were "one horse farms." At these 14, 12 used only family labor and only two also used some day labor. At the three "two-horse farms," one used only family labor, while the other two kept a hired hand. They reported largely subsistence crops of corn, rice, sugar cane, sweet potatoes, peas, and oats. Cotton was likely a relatively rare crop.

From the standpoint of corruption, Republican rule during Reconstruction was likely no better, or worse, than Democratic rule either before or afterwards. In Georgia, for example, a white Reconstruction official pushed the state's newly formed public school system to purchase books published by the New York Harper Brothers firm, in exchange for a $30,000 "loan" (Friedheim and Jackson 1996:234). While the same types of fraud were seen, regardless of political affiliation, even the hint of corruption played into the hands of those opposing Reconstruction.

Although the freedmen did exercise their voting rights in 1867 and 1868, they never dominated the Georgia political scene during Reconstruction. Threats of violence by the Ku Klux Klan eliminated any real black influence and by December 1870 the Democrats won overwhelming control of the state legislature. By 1873 this white legislature effectively eliminated virtually all of the advances made by the black electorate by extending residency requirements for state and county elections.

The 1870s and 1880s were a period of economic revitalization, energy, and optimism, for rural Georgia. Although the overall economic situation changed little, if at all, major changes did occur in the manufacture of naval stores, particularly in the turpentine industry. Since the late Colonial Period North Carolina had led the nation in the production of naval stores. This was particularly true of the turpentine industry. Yet, by the late nineteenth century a history of poor planning had led to a decline in production within that state (Thomas 1975:4).

> After 1875, it was to Georgia that many North Carolina turpentine farmers moved to "set up shop" in Georgia's great pine belt, south of the fall line. Most of these North Carolina farmers brought black workers with them and returned each year to obtain more workers from the

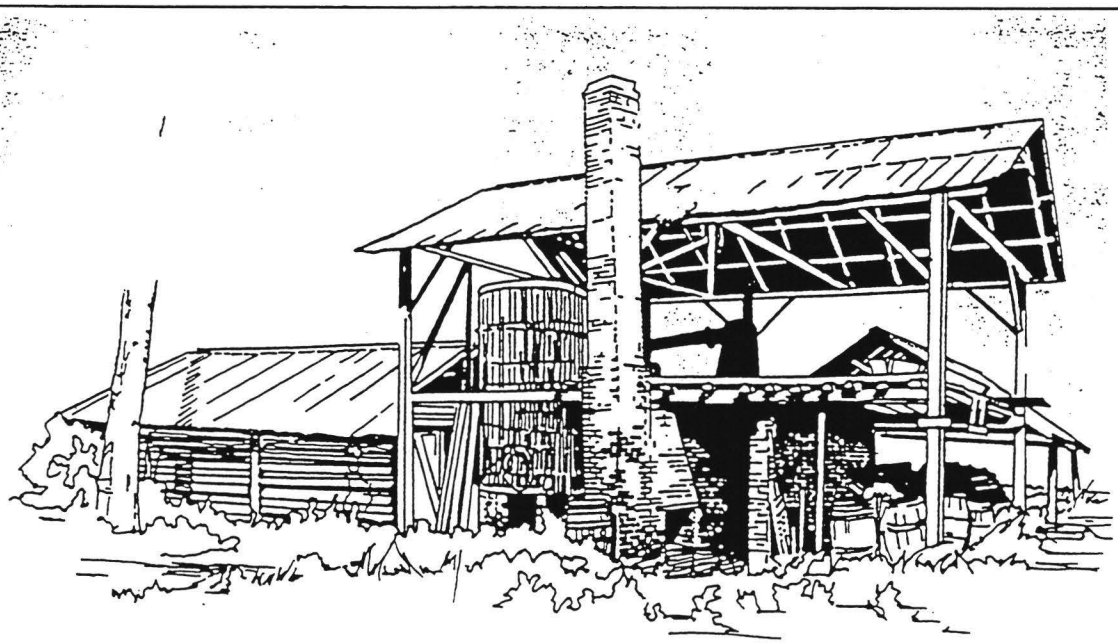

Figure 21. Typical twentieth century turpentine still (Thomas 1975:cover).

> Carolinas. The farmers built villages or quarters for them on the sites since they had no other place to live (Thomas 1975:4-5).

From 1880 to 1905 Georgia led in the production of naval stores. Florida took the lead until 1923 when Georgia regained its position in the naval stores industry. Yet, it should be noted that while many of the state boasters forecasted a "New South" of reconciliation and reform, much of the state remained locked in poverty and bigotry nurtured by years of slavery. In 1882, Oscar Wilde wrote from Augusta:

> I write to you from the beautiful, passionate, ruined South, the land of magnolias and music, roses and romance, picturesque, too, in her failure to keep pace with your keen Northern pushing intellect, living chiefly on credit and on the memory of crushing defeats (quoted in Lane 1993a:xii-xiii).

In spite of the improvements seen in the urban areas, Georgia remained rural and poor. In 1900, 85% of the state's population still lived on farms or in small villages and 60% continued to work in agriculture. Further, the state's per capita income showed no increase between 1880 and 1900 (Lane 1993a:xiii).

Cotton production on late nineteenth century tenant farms was little different from that practiced on antebellum plantations. The planting, cultivation, and picking was labor intensive, with the entire family, and often a mule, devoting their entire energies to this single minded pursuit. Yields were low and debt continued to be heavy.

Lane (1993a:xiv) points out that debts which could be repaid by a single bale of cotton in 1880 required two bales only five years later in 1885. A major financial panic hit the country in 1893, followed by a nearly seven year depression. Cotton prices plunged to less than 5¢ a pound and it wasn't until 1898 that the recovery drove prices up to 7½¢ a pound. These hard times forced furnishing merchants to severely restrict lending, even based on crop liens.

This caused some crop diversification, but little lasting improvement.

Cotton prices did not increase significantly until the early twentieth century, when there was a twenty year period of relative prosperity. Farmers turned their backs on diversification and returned to "King Cotton." The 3.5 million acres planted in cotton in 1900 were increased to over 5 million acres in 1916. It was also at this time that the turpentine industry gained new impetus for its production, brought about by Dr. Charles Holmes Herty:

> Herty, a chemist at the University of Georgia, was on a sabbatical to Europe when he heard a German professor relate how the Americans "butchered the pine trees by cutting a box into the tree to collect the resin and sometimes ruined the future growth of the tree. Herty was also able to see cups, a new invention, being used to collect gum at this time. Herty returned to Georgia late in the summer of 1900 and started his crusade to better the turpentine industry with an initial visit to Valdosta in October of that year (Thomas 1975:5). Eventually, he invented the clay, or Herty, cup to "replace the box method of collecting gum" (Thomas 1975:6). It was only after the introduction of the "Herty cup" that Georgia was able to retain the lead in turpentine production.

Many of the resulting "turpentine towns" are only vaguely remembered by locals and poorly documented in the historic records. A typical twentieth century turpentine still is shown in Figure 21. Campbell et al. (1996:134-135) provide an interesting sketch of Strumbay, in the Willie area, just west of Rimes Cemetery in the location of what is today Training Area B-11. It appears to have originally been a terminal point on a tram built by timber man William Tuten, although with the expansion of the line it became just one of several stations. There was a post office, at least as late as 1906, and a school which served the white residents. Perhaps more interesting is the nearby African-American community of Stewart Town. Although even less information is available about this community, its existence documents the segregation of services, communities, and even life which characterized the South in the late nineteenth and early twentieth centuries.

Immediately before the First World War, Georgians in general had greater prosperity than they had seen since before the Civil War. The expansion of Rural Free Delivery and the increase in automobiles and telephones contributed to this appearance of prosperity and well-being (Coleman 1991:261). Also contributing was the development of inexpensive fertilizer which began to make the sandy soils of the pine barren woods more profitable. Campbell and her colleagues note that land was cheap and by 1910 cotton was a much more commonly planted crop, at least in the Liberty County area. They note that only did the small owners take advantage of fertilizer to increase their production, but the "owners of large holding who had exhausted the timber and turpentine potential of their tracts turned to farming, utilizing tenant labor" (Campbell et al. 1996:127).

The introduction of the boll weevil between 1915 and 1917 (Hodler and Schretter 1986:86), coupled with increasing competition further north and even outside the United States, sent prices plummeting. Cotton prices dropped from 35¢ a pound to 17¢ in a single season. Cotton yields fell by a third to nearly a half (Coleman 1991:263).

In spite of the spread of tenancy, Bryan, Liberty, and Long counties continued to have low tenancy rates. For example, in 1930, at the height of tenancy, these counties all had less than 35% tenancy, while counties just slightly further inland had ranges up to 80% (Hodler and Schretter 1986:86). The project area continued to be dominated by small, privately owned farms (this is also noted by Campbell et al. 1996:139).

What industrial improvement the state saw

focused on very basic extractive industries — cotton, lumber, and paper mills — which plundered the natural environment and paid very low wages. One enterprise in particular — cotton mills — was Georgia's leading industry throughout the half-century from 1890 to 1940. In Liberty County, by 1900, agriculture, livestock, lumber, and naval stores were the primary industries. In this year the county produced about 333 bales of cotton, 2,000 head of cattle and hogs, 2,000 feet of lumber, and approximately 1,000 barrels of rosin and turpentine (Groover 1987:70).

In western Liberty County large tracts of property were purchased by turpentine distillery companies. The Lanier Turpentine Corporation owned a number of tracts in the project area. As well, a number of privately owned stills were constructed through out the area. A large still was owned and operated by Mr. Porter of Taylors Creek (Trinkley et al., 1996) as was one owned and operated by Joseph B. Way in Hinesville (Groover 1987:81). As of 1901 Liberty County contained a total of 12 distilleries (Thomas 1975:E-1).

Trade unions were virtually unheard of prior to about 1890. During the first half of the twentieth century most union activity focused on skilled trades. Textile workers used strikes on several occasions in an effort to organize. The most notable occurred across the state during the summer of 1934. Eventually the state militia was called in to break the strike and union organization in the mills would not be successful for another two decades.

The railroads, one of the few truly successful industries in Georgia, had expanded dramatically by 1899. Much of this expansion was in central and northern Georgia. The main line connected Savannah with McIntosh, Walthour, Johnson, and Jesup on the southern edge of the project area, where lines then extended north, south, and west (Hodler and Schretter 1986:171). The bulk of the Pine Barrens wouldn't be readily accessible until at least 1939 (Hodler and Schretter 1986:172). In Liberty County several railroads were constructed to access various portions of the county. The majority of these were "convenient to farmers, naval stores operators, and sawmills except in the upper part of the county" (Groover 1987:80). These would include the Darian and Western Railroad to the south and the Glennville and Register Railroad to the west. The Georgia, Coast and Piedmont was established in 1902. A fourth railroad, the Flemington, Hinesville and Western ceased operation in 1919 (Groover 1987:70, 80). By 1919 there were six freight stations located in the county.

Much like the orientation of small towns and communities along river and road locations during the eighteenth and nineteenth centuries (Trinkley et al. 1996), a number of small communities grew up along the railroads. Although some of these communities still exist, for example Johnstons Station became Ludowici, a number failed to remain viable through the twentieth century. Many of these Liberty County communities had names like Mendes, Wee Fanny, Goosepond, Donald, and Shady Grove (Groover 1987:70). Many contained schools for the education of both blacks and whites. In 1919 the county contained 98 public elementary schools and a one public high school. A number of privately operated schools supplemented the public system (Groover 1987:83).

The Rise of Populism and Segregation

The Democrat Party, popular with Atlanta businessmen, dominated Georgia's recovery. Farmers, unhappy with the shift toward "big business" and the urban economy, were easily defeated by Democratic appeals for unity against the threat of black domination, at least during the 1880s. By the 1890s, however, the power of the rural communities was increasing. In 1890 the Farmers Alliance unseated conservative Democrats in six of the 10 Congressional Districts, took control of the party, and easily won both the governorship and the legislature (Lane 1993a:xv).

Faint with power, these populists bolted from the Democratic party and began an appeal to the common interests of all farmers — black and white alike. Urging economic reform and appealing to the discontent of both poor blacks and whites, the leader of this movement, Tom Watson, drove the conservative Democrats to outlandish displays of election fraud.

Blacks (and whites) were provided free liquor and barbecue, then driven to polling places. Using the tactic of voting early and voting often, the Democrats won landslide victories against the populists — garnering more votes in some precincts then there were registered voters.

The Democratic response to Tom Watson was borne of fear. Black illiteracy had dropped from 92.1% in 1870 to 52.4% in 1900. By the early 1900s blacks owned 1,400,000 acres of property valued at over $28,000,000. Simply put, in a single generation freed slaves had managed to increase their land holdings by a million acres and reduce their rate of illiteracy by half. The white population, still yearning for a world of "darkies" who knew their place, viewed this kind of progress with alarm. Lane recounts one Georgian who put the view of the white population very plainly:

> As long as a Negro keeps his place I like him well enough. As a race, they are vastly inferior to whites and deserve pity. This pity I am willing to extend as long as they remain Negroes, but the moment a nigger tries to become a white man, I hate him like hell (quoted in Lane 1993a:xvii).

As the agrarian empire of Georgia began to collapse, and white and black people began to move into the cities, crossing traditional and accepted lines of behavior, segregation sprang up almost overnight. Georgia's first statewide segregation law was passed in 1891, with additional laws enacted in 1897, 1905, and 1908. Cities also began to pass municipal ordinances against blacks (for an overview, see Kennedy 1990).

As the economic conditions of the state worsened there was a dramatic outbreak of lynchings, which Lane suggests reflected the "poverty and frustrations" brought on by the collapse of cotton and the failure of populist reforms (Lane 1993a:xix). Between 1889 and 1918 Georgians lynched at least 386 people — more than any other state — and 93% were blacks.

The white populists, believing that it would be necessary to shackle blacks in order to achieve their own economic freedom, engaged in one of the dirtiest campaigns ever seen in Georgia. In the aftermath of vitriolic oratory, Atlanta exploded in a four-day race riot. The new governor of Georgia, Hoke Smith, pushed through a constitutional amendment to disenfranchise the black in 1908, making Georgia the seventh Southern state to do so. As Lane observes, "a half century after emancipation, Georgians had put the black back 'in his place'" (Lane 1993a:xx; see also Ayres 1995 and Du Bois 1992).

At first slowly, and then in very large numbers before and after the First World War, blacks engaged in the "Great Migration," moving out of the South. There was a shift from south to north, rural to urban, and from agricultural to industrial.

World War I stimulated some diversification of crops, but had few other economic impacts. It certainly did not solve any of Georgia's economic or social ills. Following the war, a series of economic crises struck. Cotton prices continued to fall, the boll weevil continued to advance, and cotton was taken out of production. The state's farm population declined by 375,000. Finally, as if to seal the fate of Georgia, the Great Depression hit in 1929.

The Depression and the Modern Era

The New Deal agricultural policies of the 1930s to some degree helped large farms, but small farmers and especially tenants continued to suffer. Farms were abandoned as the migration to the cities continued.

One of more successful programs for Georgians was the establishment of the Federal Land Bank system, which served to undermine the crop lien system by providing affordable credit (Coleman 1991:265). Another major change in the lives of the ordinary Georgia farmer was the creation of the Rural Electrification Administration in 1937. Prior to this 97% of the state's farmers lacked electrical service. By 1950 forty-three cooperatives had been created and most of the farms in Georgia were electrified.

While causing much hardship on tenants and sharecroppers, the Depression and the associated government programs also served to break "King Cotton's" monopoly. Tobacco, which was already the state's second most important crop by 1927, doubled in acreage by 1939. The 1930s also saw Georgia assume the lead in national peanut production. Pecan production increased and there was also a steady increase in the commercial production of tomatoes, beans, cabbage, cantaloupes, and other truck crops.

It was World War II, as much as any New Deal program, which dragged America, and Georgia, out of the Depression. Military bases pumped federal dollars into the state and war production expenditures encouraged even further economic development (Coleman 1991:339). Per capita income would jump from about $350 in 1940 to more than $1,000 in 1950. Most of this growth was directly attributable to the rapid growth of industry and manufacturing.

Campbell and her colleagues have identified one appraisal report for a farm in the Fort Stewart area which they suggest may be typical. On the eve of World War II, the farmer:

> cultivated about one-third of his 94-acre tract; the rest remained forested. His homestead included a small wood-frame dwelling, a garage, smoke house, syrup shed, corn crib, barn with attached shed, a hen house, and another shed with stalls attached. The crib and hen house were built of logs; the other buildings all were of frame construction. Around the yard stood a picket fence. Water came from an open well. Twenty seedling peach trees, several well-grown pecan trees and a grape arbor stood on the premises. Pine trees suitable for pulpwood and saw timber, as well as pine and cypress for poles grew on the property, as did pines usable for naval stores production. In summation, the appraised judged this to a "a fair farm unit with the forest portion of the tract in good condition" (Campbell et al. 1996:143).

Several small communities, at least one (Taylors Creek) dating to the antebellum, continued to be the focal points for the project area, each representing small, somewhat diffusely clustered combinations of commercial and residential structures held together by their cross-road locations. In spite of this, it appears that even these surviving towns had their economic bases eroded by the boll weevil and the exhaustion of the timberlands used for naval store operations.

Campbell and her colleagues attempt to categorize various sites as representative of different historic periods, but with only limited success. They note that, "other than the churches and cemeteries mentioned in the general discussions above, no specific sites associated with the 1865 to 1880 period have been identified" (Campbell et al. 1996:122). There are four sites with nineteenth century remains, which may (or may not) represent early postbellum occupations. In addition, they observe that there are an additional 150 sites which contain both nineteenth and twentieth century materials, as well as an additional 21 sites with only twentieth century remains. Most of these sites represent scatters of materials, some of which have been recognized as razed structures (Campbell et al. 1996:138). They point. out, however, that archaeological testing of these historic sites is so sparse that there is little information with which to attempt any refinement of their temporal placement (Campbell et al. 1996:147). This problem, of course, is exacerbated by the relatively few ceramics providing good temporal markers for the late nineteenth and early twentieth centuries.

Fort Stewart, created in June 1940 with the purchase of 2025 ha, was initially called Camp Stewart and was intended to serve primarily as a training facility for National Guard units being inducted into the regular army (Campbell et al. 1996:150-151). The acreage was quickly expanded, so by 1941 the base incorporated 60,750 ha.

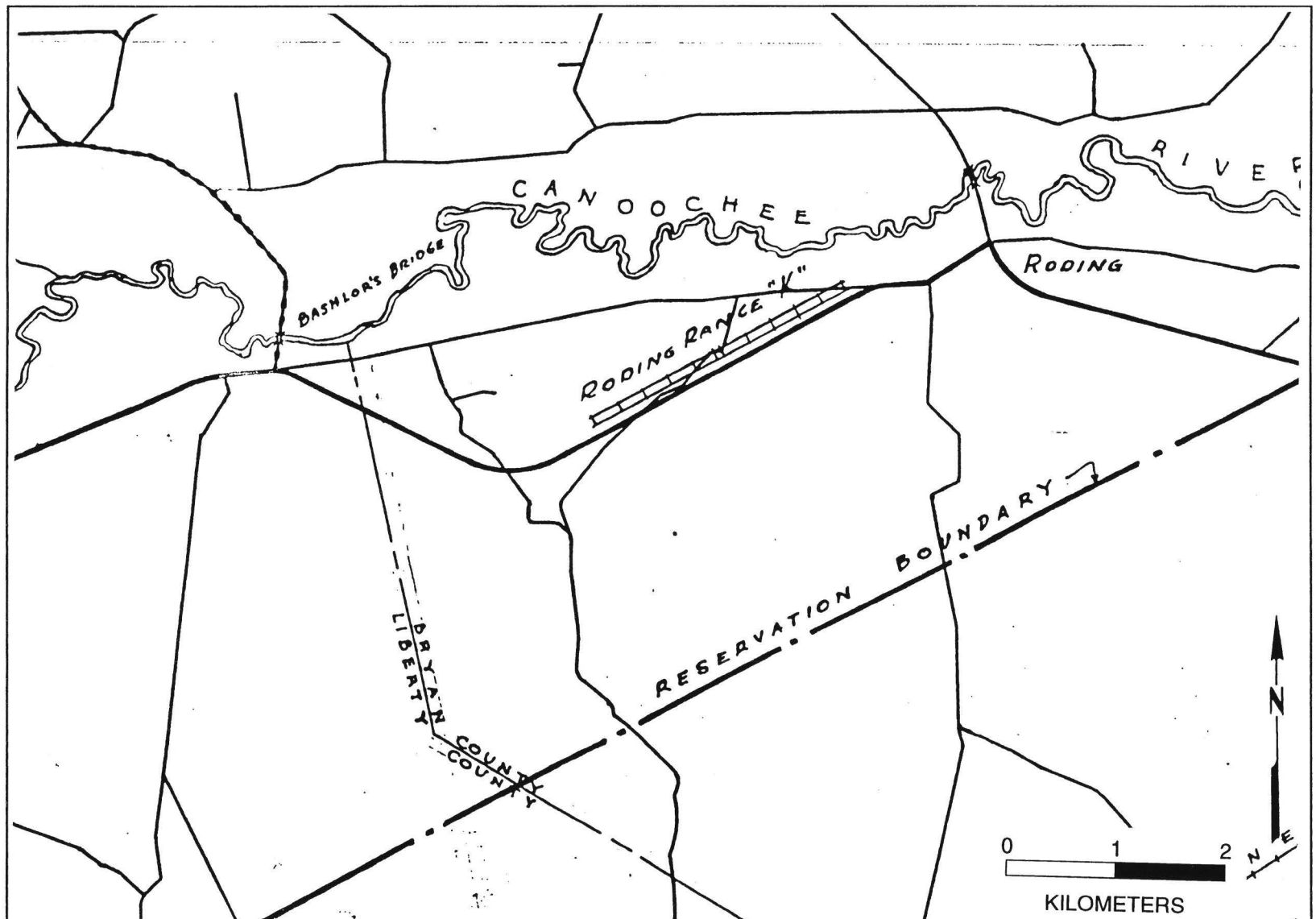

Figure 22. Map of Roding Range K in 1943 (adapted from Camp Stewart Reservation Map 1943 1:62500).

The area, selected for both its strategic importance protecting Savannah as well as its inexpensive land values, was thought initially to have a relatively low density of families. Early government projections suggested that only a few hundred families would be affected. By the time the base was firmly entrenched, it appears to have displaced upwards of 6,000 people and 1,500 families (Campbell et al. 1996:151).

During the early years of World War II the base was used primarily for antiaircraft training. The 214th Coast Artillery Regiment and the 70th Coast Artillery Antiaircraft Regiment were brought to Camp Stewart in late 1940, and actual training for the antiaircraft program began in December 1940 (U.S. Army 1941:12-13). By 1942, 21 artillery and antiaircraft battalions were training at Camp Stewart, and the camp contained the largest antiaircraft training center in the world (Campbell et al. 1996:148-149). In 1944, the camp was used to train small numbers of antiaircraft batteries, although most of the personnel had shipped out by this time.

One of the ranges used in the antiaircraft training, the Roding Range, was located during the current survey (Figure 22,and 23). This range would have contained 800,000,000 candlepower antiaircraft searchlights, and antiaircraft guns which probably included Bofors 40 mm, and .50 caliber guns.

A 1943 War Department map depicting Roding Range K (a portion of which is shown in Figure 46 in **Results of Survey**) indicates that the range consisted of ten antiaircraft points and a main control tower aligned along what is now Georgia State Highway 144 with a raised firing line located in front of the points and parallel to the highway. These ten points were accessed by a main road that ran parallel to Highway 144 and short roads that ran perpendicular to the main road. Five points were located west of the main control tower and five were located east of the main control tower. The five points located west of the main control tower fall into survey tract NRMU B24.2.

Antiaircraft drills at Camp Stewart were conducted Tuesday and Thursday nights. Planes from 105th Observation Squadron at Columbia, SC flew a tracking mission over the camp, mixing regular 10,000 feet flying with dive-bombing tactics while antiaircraft gunners practiced simulated firing at the plane. Planes used flour-sack bombs to hit antiaircraft artillerymen

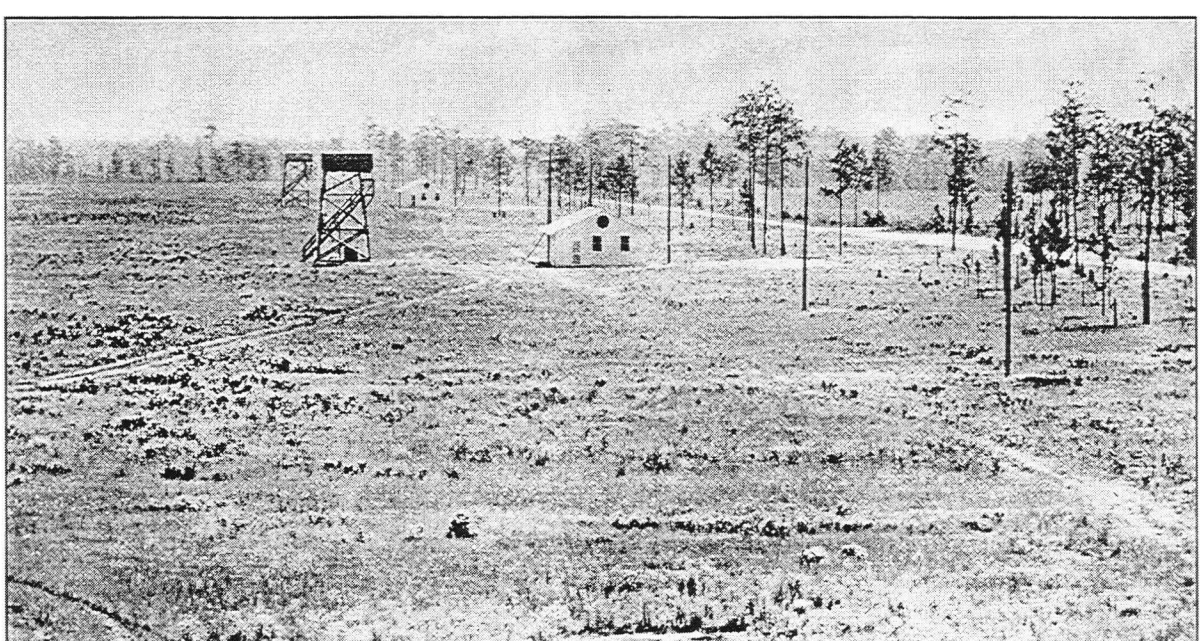

Figure 23. Possible photo of Roding Range (U.S. Army Photograph).

(U.S. Army 1941:13).

By late 1944, the post's function shifted to general troop training and by 1945 the focus was on training cooks and postal workers. In July 1946 Camp Stewart, as it was called, was deactivated. With only a skeleton force of military and civilian personnel stationed there, the base fell into disrepair and was used primarily as a National Guard summer camp (Campbell et al. 1996:153).

In 1953 the base's function shifted to include the training of tank units, although National Guard units continued to use the camp during the summer. Peaks in activity occurred during the 1961 Berlin Airlift and the 1962 Cuban missile crisis. During the Vietnam Conflict the base was used by the Aviation School Element and became a U.S. Army Flight Training Center.

After Vietnam the base came close to closing, but was eventually saved by the decision to organize an infantry brigade and division. Campbell et al. (1996) note that the First Brigade, 24th Infantry Division became the first unit of this reorganization to use the Fort Stewart facilities (Campbell et al. 1996:153). In 1980, the 24th Infantry Division was reassigned to the Rapid Deployment Force and became a mechanized division (Campbell et al. 1996:154). In 1990-1991, this division was involved in the Persian Gulf War. In 1996, the 24th Infantry was reflagged as the 3rd Infantry Division (Mechanized) (Epenshade et al. 1999:42). The post continues today to be used for military training.

RESEARCH STRATEGY AND METHODS

Research Goals

The primary goals of this survey were to identify, record, and assess the significance of archaeological sites within three survey tracts, which total 793.22 ha on Fort Stewart. As stated earlier, this work is being done in order to fulfill compliance with the National Historic Preservation Act (Public Law 89-665, as amended by Public Law 96-515) Guidelines for Federal Agency Responsibilities, under Section 110 of the National Historic Preservation Act, Army Regulation AR 200-4, and 36CFR800 (Protection of Historic and Cultural Properties).

Preservation efforts offer important economic, tourism, and education opportunities (see, for example, Rypkema 1990). Yet, clearly these are of little consequence to a government agency whose mission statement is national defense. Clearly, in such a case, the motivation is compliance with law. In spite of this, preservation offers intangible benefits, such as external benefits to society, which are worthy of careful consideration. U.S. Representative John Lewis from Georgia has remarked that, "it is not enough to learn from history or a movie, we must make sure that these precious pieces of our history are preserved." Knowing and understanding our past, many have argued, creates better citizens and hence a better society.[1] Citizens take greater pride in their city's, county's, and country's historical achievements. This pride naturally boosts morale and enhances civic participation. Native American and African American groups can rightly take pride in the expression of their unique ways of life, their history, and their contribution to our Nation. Exploration of our past reveals the heights of which humanity is capable. The study supplies continual inspiration and promise. The exploration of the past makes it possible to keep on seeing, thinking, and reflecting afresh — and this freshness and willingness to explore the past is essential to the democratic process. Exploration of the past may offer social commentary by providing new insights into past lives, or how society reacted to past pressures. It may even help us to better understand the failures of the past.

It is also important that a country which has so strongly advocated educational improvement and reform should also understand the irreplaceable role that historic and prehistoric resources can play in teaching us about our heritage. It is essential that the next generation of citizens understand the stories hidden within our archaeological sites and in our historic churches, houses, factories, and communities. The ability to reach out and touch the past, forming a strong and clear link between yesterday and today, offers an unforgettable understanding of another way of life and helps our children better understand the fabric of life in our country. By exploring and emphasizing African American and Native American history it is possible to strengthen the understanding that our heritage is the combined history and culture of all of our citizens.

Oftentimes historic preservation, through the exploration of the past, may challenge rather than reassure, and provoke rather than sooth. Archaeological research, in many ways, offers much more than history ever can since history is largely written by the well educated, the wealthy, and the white. History tends to ignore the poor, the underclass, the illiterate, making them invisible people. History is what others want us to know, archaeology offers the opportunity to explore the reality of the past without the filter of subjectivity added by some, perhaps many, historical accounts. Archaeology offers the potential to explore the lives of

[1] One of the earliest discussions of preservation for patriotic reasons is Charles B. Hosmer, Jr.'s *Presence of the Past*, a history of preservation in America up to 1926. He reveals that long before even the Civil War, America's need to create a national identity manifested itself in efforts to preserve historic sites.

African American slaves that are largely known only through the dry history of white slave-owner account books and plantation diaries. While slave owners were concerned with how many acres a slave could hoe, or how much they had to be fed, the owner was rarely interested in how slaves lived, died, ate, or made their house a home. Likewise, our understanding of Native American groups in the historic period is dominated by traders and occasional visitors who had clear reasons for coloring their accounts. Archaeology offers the only opportunity for better understanding the reality of the past.

Part of this reality is also the understanding that history is not made up of single events, or great people, or unique ideas alone. As Tony Wrenn and Elizabeth Mulloy explained nearly two decades ago:

> Events are only punctuation marks; the process itself is history. It takes days and days of irritation and heat and insult, and grievance to provoke a revolution. A bicentennial commemorates 200 years — not just the years on either side of a hyphen (Wrenn and Mulloy 1976:15).

History is fluid and on-going. It involves both the great and the small. Archaeological studies help us better understand both the continuum and also the importance of the common person.

Many also point out that historic preservation is a "merit good" — simply because preservation is an important part of life, its perpetuation and dissemination merits government support. Like food, shelter, and education, some feel that everyone should be entitled to a minimum quantity and standard of historic preservation experience, whether that be exposure to historically significant buildings, a better understanding of past industrial technology, or the ability to explore Native Americans who lived thousands of years ago. The government allows preservation efforts to be available and emphasizes their importance by support of preservation on government facilities and land. Inherent in this is the assumption that, without subsidy, the cost of historic preservation is too high relative to most consumer's incomes. It follows that there is an intrinsic wrong in making our history available to only the richest 20% of the population, who are likely to represent a very biased cross-section of our society.

In addition to the legally mandated goals of this study, in an effort to expand the base of our socio-cultural knowledge, we identified and incorporated a range of secondary goals. These reflect an effort to address at least some of the issues identified as important to the discipline. These included both research issues, whose answers will help to better explore and refine our understanding of the past, and methodological issues, whose answers will help to better and more cost-effectively undertake survey and preservation efforts.

The intensive investigation of these three survey tracts offers a unique opportunity to intensively explore the archaeology of a section of Georgia which has received relatively little in-depth archaeological attention.

The combination of evidence recovered from these surveys offer an opportunity to study a number of diverse topics concerning the prehistoric and historic settlement. Each of the sites discovered represents some form of human occupation. This may range from a prehistoric hunting camp or seasonal occupation to a contact period frontier settlement, to a mid-twentieth century rural settlement. The study of recovered archaeological data provides a time frame for these sites, thus the temporal duration of these settlements. The functional purpose of these sites may become apparent from the study of tool assemblages or from personal items. They also offer the chance to determine changes in land use patterns over an extended period of time.

This survey has also allowed the critical study of archaeological methodology. Questions related to the effectiveness of 30 m transects in the discovery of prehistoric and historic sites may be addressed. Would other methodologies be more effective in locating prehistoric sites as opposed to historic sites? Should a different methodology be used when attempting to determine patterns and loci of dispersed settlement as

opposed to communal settlement? Each of these questions addresses concerns related to surveying singular geographical areas in which multiple habitation components are evident. Although some of these topics are addressed within this report, many of them will need careful consideration and more data to make determinations.

No major analytical hypotheses were created prior to the field work and data analysis, although certain expectations regarding the secondary goals will be outlined in these discussions. The research design proposed for this study is, as discussed by Goodyear et al. (1979:2), fundamentally explorative and explicative.

As stated above, the primary goals of this survey were to identify, record, and assess the significance of archaeological sites within the survey tract. The latter aspect involves the sites' eligibility for inclusion on the National Register of Historic Places, although Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead compliance agency, the United States Army, in consultation with the State Historic Preservation Officer at the Georgia State Historic Preservation Division.

The criteria for eligibility for the National Register of Historic Places is described by 36CFR60.4[2] and states that:

> [t]he quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

It is generally accepted that "the significance of an archaeological site is based on the potential of the site to contribute to the scientific or humanistic understanding of the past" (Bense et al. 1986:60). Butler suggests that the only valid measurement of significance must be based on what he calls the "theoretical and substantive knowledge of the discipline" at any particular moment in time (Butler 1987:821). While the use of this approach over that developed by Glassow[3] (1977) has been suggested, Butler himself

[2] In addition to these criteria, properties with traditional religious and cultural importance to Native American or Native Hawaiian groups may be eligible for the National Register, even if they don't seem to fit any of the outlined categories.

[3] Glassow's (1977) approach to evaluating site eligibility is through the use of five properties: site integrity, site clarity, artifactual variety, artifactual quantity, and site environmental context. These qualities stress properties of the archaeological record. *Integrity* refers to the degree of preservation or amount of in situ remains present at a site. It relates to the condition and amount of archaeological artifacts, ecofacts, and features found at a site. *Clarity* indicates how well the strata or subsurface features may be distinguished. *Variety* refers to the qualitative variability in the archaeological remains found at a particular site. *Quantity* refers to the frequency or density of the artifacts or subsurface remains and it is in many ways one of the easiest properties to evaluate (although it is certainly not the most important). The last criterion, *environmental context*, refers to unusual

acknowledges, "we cannot foresee future research questions, and we may not possess the theory to interpret and understand all that is present" (Butler 1987:822). At this point in time it seems essential to recognize the importance of asking the right questions at the right sites, not limiting the number of sites at which questions are asked, or what questions are posed. Clearly, asking "right questions" at the "right sites" can be difficult and requires an understanding of the "theoretical and substantive knowledge of the discipline" (Trinkley 1990:30-31).

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence remains, architectural remains, or sub-surface features;

- identification of the historic context applicable to the site, providing a framework for the evaluative process;

- identification of the important research questions the site *might* be able to address, given the data sets and the context;

- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and

- identification of "important" research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered.

In the case of a survey which identifies multiple sites the process outlined by Townsend et al. (1993) can become burdensome. Consequently, this study has elected to combine some of the steps, making the process more streamlined, without substantively altering the goal to ensure that sites capable of providing significant information are provided the protection afforded in the historic preservation process. The development of a context was not undertaken for each site, but is found outlined in the prehistoric and historic overview section of this report. The identification of "important" research goals is briefly discussed below.

The evaluative process is essentially the same as outlined by Townsend et al. (1993). Data sets and integrity are discussed for each site encountered.

There is no single overview of Georgia's prehistory, yet the synthesized statement offered here points out at least a few of the major research concerns for the Fort Stewart area. While certainly not exhaustive, these will be used to help determine which sites identified in the survey are important to a better understanding of the local prehistory.

Perhaps first and foremost, it is not clear where the study tracts fit in terms of regional chronology. Fort Stewart sits on the edge of the coastal zone and that portion of the coastal plain often called the Pine Barrens. It is uncertain if the cultural materials found in the study will clearly be subsumed within the chronology and phase development developed for the mouth of the Savannah River or if it will show influences from the Ocmulgee Big Bend or perhaps even other areas. Will sandy-paste Wilmington-like pottery be found? Will various Ocmulgee-like cord marked pottery be found? Will there be evidence of

environmental features or zonation which might be important in distinguishing sites or site types.

various Lamar phases? Will Refuge materials be found inland on Fort Stewart?

The amount of data present for Fort Stewart is so limited that the 103,550 ha tract is largely *terra incognito*. This problem has been recognized by Campbell et al. (1996:194) and they, too, emphasize the need for additional survey work. Until much more work is done on the base it will be impossible to clearly understand the role it plays in the prehistory of the Georgia Coastal Plain.

Second, there seems to be little documented information available concerning the importance of this Pine Barren area of Georgia throughout prehistory. While it is clearly no longer viewed as a hostile wasteland devoid of culture, there remain legitimate questions concerning the frequency of sites, their function, and their distribution on the landscape. Long-term investigations at Fort Stewart provide a unique opportunity to explore these questions and develop a more comprehensive understanding of site locations and densities.

Third, there is a need to excavate sites that represent the range of types for each phase of the regional sequence. Only through excavations will it be possible to explore the complete culture history of the area. Excavations are essential to provide accurate descriptions of assemblages and to assess diachronic changes. Excavations are necessary to collect subsistence data, which will have special bearing on the Mississippian groups found in the region. Excavations are also absolutely essential to the development of platforms from which processual studies can be launched.

While the surveys Chicora Foundation is currently under contract to provide do not involve the kinds of excavations necessary, the survey work can identify sites which exhibit the potential to address this need.

One of the secondary goals we outline is to examine the location of both prehistoric and historic sites in relation to landforms, soil types, proximity to water, and soil drainage. Our goal in this effort is to further refine, or at least explore, the predictive model currently available for Fort Stewart. Our conclusions explore the importance of landform, soil, and drainage issues to settlement and also present additional data on the expected range of site density for the Fort Stewart area.

Another goal is to determine the ability of 30 m interval shovel test transects to locate archaeological resources on a given tract. The survey tracts at Fort Stewart, which were found to contain both prehistoric and historic resources, were considered by Chicora as a prime opportunity to again study the ability of this archaeological method to determine external site boundaries on widely divergent site types. Comparative data from the 3 survey tracts was used to determine the effectiveness of 30 m transects in these areas of the base.

Another goal was to determine site function and duration based on artifact content. Sassaman et al. (1990) have suggested that examining the tool to debitage ratio can provide functional information about a site. For instance, a low tool-debitage ratio will reflect either "locations of intensive lithic tool production, or locations were tools or cores were modified but not discarded" (Sassaman et al. 1990:224). A high tool-debitage ratio correspond to "relatively intensively utilized locations (e.g. field stations) away from bases and/or sources of lithic raw material" (Sassaman et al. 1990:224). Artifact density is also a method of examining site function since it reflects the "relative intensity of material discard at a site. By extension, the amount of discard is assumed to be proportional to the cumulative duration of site occupation and/or the total number of site occupants, and/or the intensity of activities from which discarded debris was generated" (Sassaman et al. 1990:223). Diversity of the assemblage can also measure the length of occupation since the discard rate of class one artifacts (such as hafted bifaces, pots, atlatls, etc.) is so low that all classes of artifacts will only be found together at sites with long occupational histories (Sassaman et al. 1990:224). This length of occupation can also be measured by the number of components present (Sassaman et al. 1990).

Density studies have also been helpful in determining site function and duration at historic sites. There has been an extensive amount of work done defining site function and duration during European contact, colonial, and post-colonial historic periods. Extensive studies, conducted at colonial plantation and settlement sites throughout South Carolina (Lewis 1984, 1985; South 1993; Ferguson and Babson n.d.; Trinkley et al. 1995) utilize ceramic typologies. European, Native American, and African American earthenwares answer questions related to the function and duration of these sites. Quite often, social status and position may be determined as well. Related land use studies may be enhanced by this data.

As well, the nature of Fort Stewart as an active military base has particularly affected the historic archaeological resources found there. A number of studies have been conducted at locations where military activity was instrumental in either the deposition or removal of cultural resources related to their operation (Legg and Smith 1989; Trinkley 1996, Trinkley et al. 1996). Initial archaeological studies at these sites tend to find a paucity of material. At Fort Stewart this is due to the removal of historic structures found on the base at the time of land acquisition by the United States government in the early 1940s, and regular policing of areas of military activities according to military regulations. At Fort Stewart, favored bivouac areas tend to be located where previous historic sites have been recovered. The lack of cultural materials at these sites may be related to ongoing activities by the military, personal collection of artifacts, and camp cleanup.

Archival Research

Site records provided by the Consulting Archaeologist at Fort Stewart were used in the background research rather than those at either the University of Georgia site files in Athens or Department of Natural Resources files in Atlanta. A single previously recorded archaeological site was found on record at Fort Stewart for survey tract NRMU B24.2. No standing structures exist on any of the tracts, although there are some remnants of gun bases at the Roding range, site 9BN186.

Field Methodology

As specified by the Georgia State Historic Preservation Division, an archaeological *site* is defined as a concentration of more than five artifacts in a 20 m area or any two consecutive positive shovel tests. An isolated *occurrence* consists of five or less artifacts. All archaeological sites and occurrences were assigned state site numbers.

Subsurface testing, for the purpose of defining site boundaries, consisted of testing along cardinal directions at 10 m intervals.

The scope of work specified that high probability areas include transects and shovel tests spaced at 30 m intervals across the tract. Low probability areas consisted of transects spaced at 30 m intervals with shovel tests excavated every 50 m. High or low probability areas were clearly designated on maps by the consulting archaeologist and were based on soil types taken from USDA soil books. As has been mentioned in previous reports (Campo et al. 1999:166), accurately translating probabilities from the soil maps to the physical survey tract in order to precisely cover ground as high and low probabilities is an onerous task. While there are ways to adapt probability areas in the field, such as blocking off portions of low probability areas and surveying the amorphous edges as high probability, these methods are not as cost efficient.

Shovel tests, which were typically 30 cm by 30 cm or greater, were excavated to subsoil (i.e., the B horizon by USDA definition) or the maximum depth achievable with a shovel (about 75 cm). Shovel test depths generally ranged from 30 to 75 cm, although some were more shallow due to the presence of water within the test. Fill was screened through 0.62 cm mesh hardware cloth and soil stratigraphy was recorded on positive shovel tests.

Positive shovel tests recorded during the survey of transects were further tested by positioning shovel

tests in a cruciform in cardinal directions from the original positive shovel test. Shovel tests were excavated in this cruciform shape until two negative shovel tests in a row were encountered. When more than five artifacts were recovered in two consecutive shovel tests, the area was designated a site and a 50 cm by 50 cm test unit was opened. The test units were excavated to subsoil and soil profiles for these units were recorded using the Munsell Color Chart designation. Overall views of the sites and photographs of the test units were taken using black and white and color transparency film.

In B24.2, a small number of artifacts were discovered on Fort Stewart Road 58. These fragmented artifacts were located in the middle of the road and did not extend to the edges of the road. None of the first shovel tests on transects run from Road 58 were positive. For this reason, these artifacts were probably brought in with road construction materials and do not represent sites or isolated occurrences and were not tested as such.

Survey transects were plotted and numbered on a project field map and transect logs were kept indicating the location and the soil conditions for each shovel test. Field notes for each positive shovel test and surface collection, in addition to site notes and maps were also recorded.

During the course of this project a total of 528 transects were traversed and 8,330 shovel tests were examined. Of the 8,330 shovel tests, 203 shovel tests (2.0%) were not excavated due to the presence of standing water or disturbed areas such as borrow pits.

In survey tract NRMU A6.4, a total of 176 transects were surveyed and 2,673 shovel test units were examined (Figure 24). Of these, 2,660 (or 99%) were excavated. The remaining 13 shovel tests were not excavated due to disturbed areas and standing water.

Survey tract NRMU A8.1 included a total of 120 transects and 2,122 shovel tests (Figure 25). Of these 2,093 (or 99%) consisted of shovel tests, and the remaining 29 were not excavated due to disturbed areas, such as borrow pits.

In survey tract NRMU B24.2, a total of 171 transects were surveyed and 3,535 shovel test units were examined (Figure 26). Of these 3,374 (or 95%) consisted of shovel tests and the remaining 161 were not excavated due to standing water.

At each *site*, a sketch map was drawn to scale showing the locations of shovel tests, test units, natural and man-made features, and datums. In addition, GPS positions were taken at all *sites*, and at each indeterminate (potentially eligible) or eligible *site* a ferrous metal datum (45 to 55 cm in length) was established.

The GPS positions were taken with a Trimble GeoExplorer™ rover with *at least* one position recorded. Where possible, additional positions were taken since averaging provides some improvement on accuracy. GPS accuracy is generally affected by a number of sources of error, including selective availability, errors with satellite clocks, and multipathing. Satellite clock errors can occur when the satellite's clock is a little as a millisecond off, or when the orbit is slightly askew, resulting in a distance error. Multipathing occurs when the signal received from the satellites bounces off trees, chain link fences, and bodies of water. Multipathing probably occurred quite frequently during this survey as many sites were located in heavily wooded areas. The most extreme source of GPS error is selective availability (SA). This is the deliberate mistiming of satellite signals introduced by the Department of Defense. This degradation results in horizontal errors of up to 100 m 95% of the time and vertical errors of up to 173 m 95% of the time.

GPS readings taken with SA active can be corrected by comparing them to data collected simultaneously at a known location or base station, known as differential correction (or DGPS). This was undertaken with the Fort Stewart data as postprocessing. With correction, the accuracy may be ±5 m.

The critical parameters used by the Chicora rover attempted to maximize both data quality and quantity, using the Trimble recommended fault settings

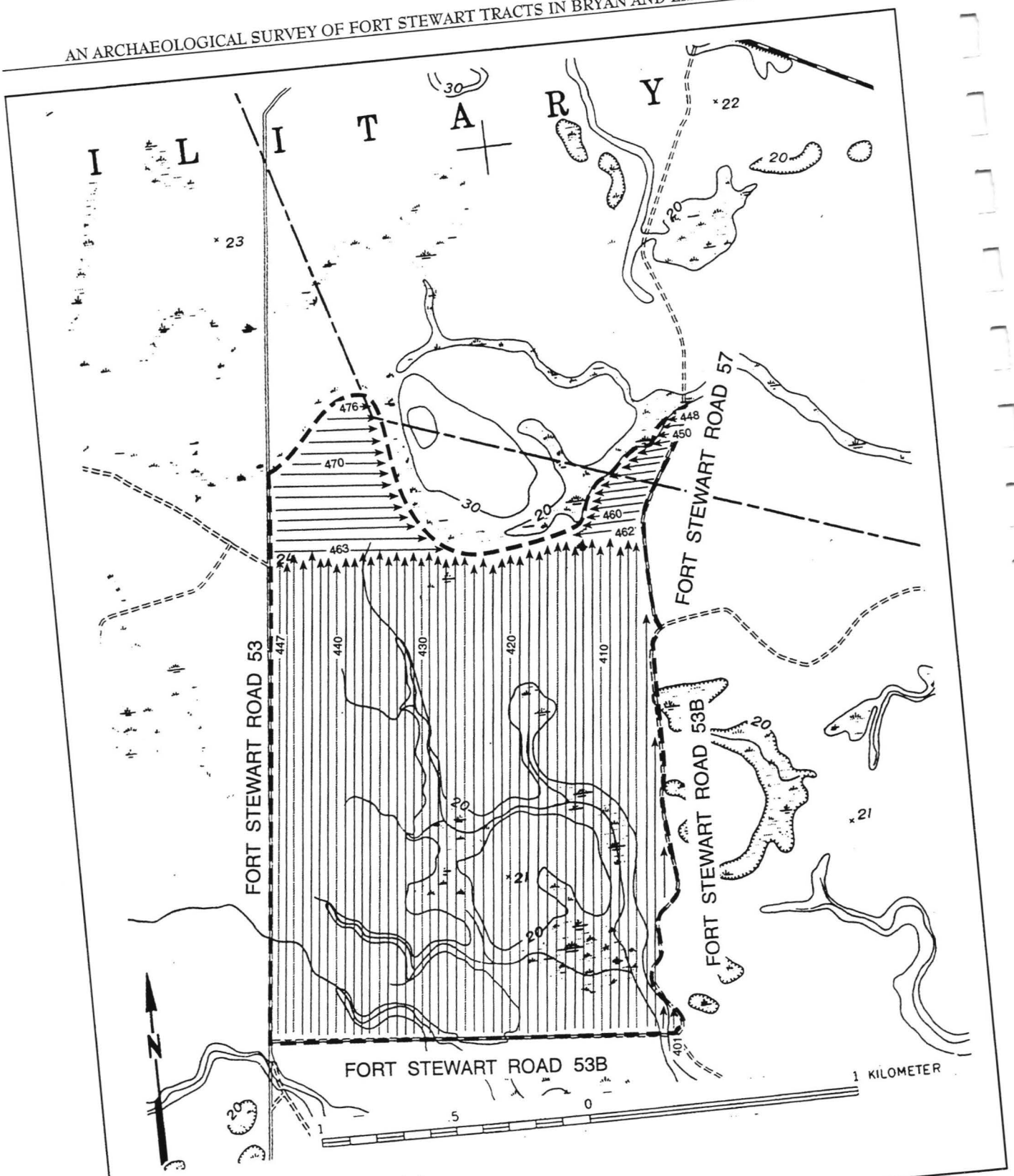

Figure 24. Transects in NRMU A6.4.

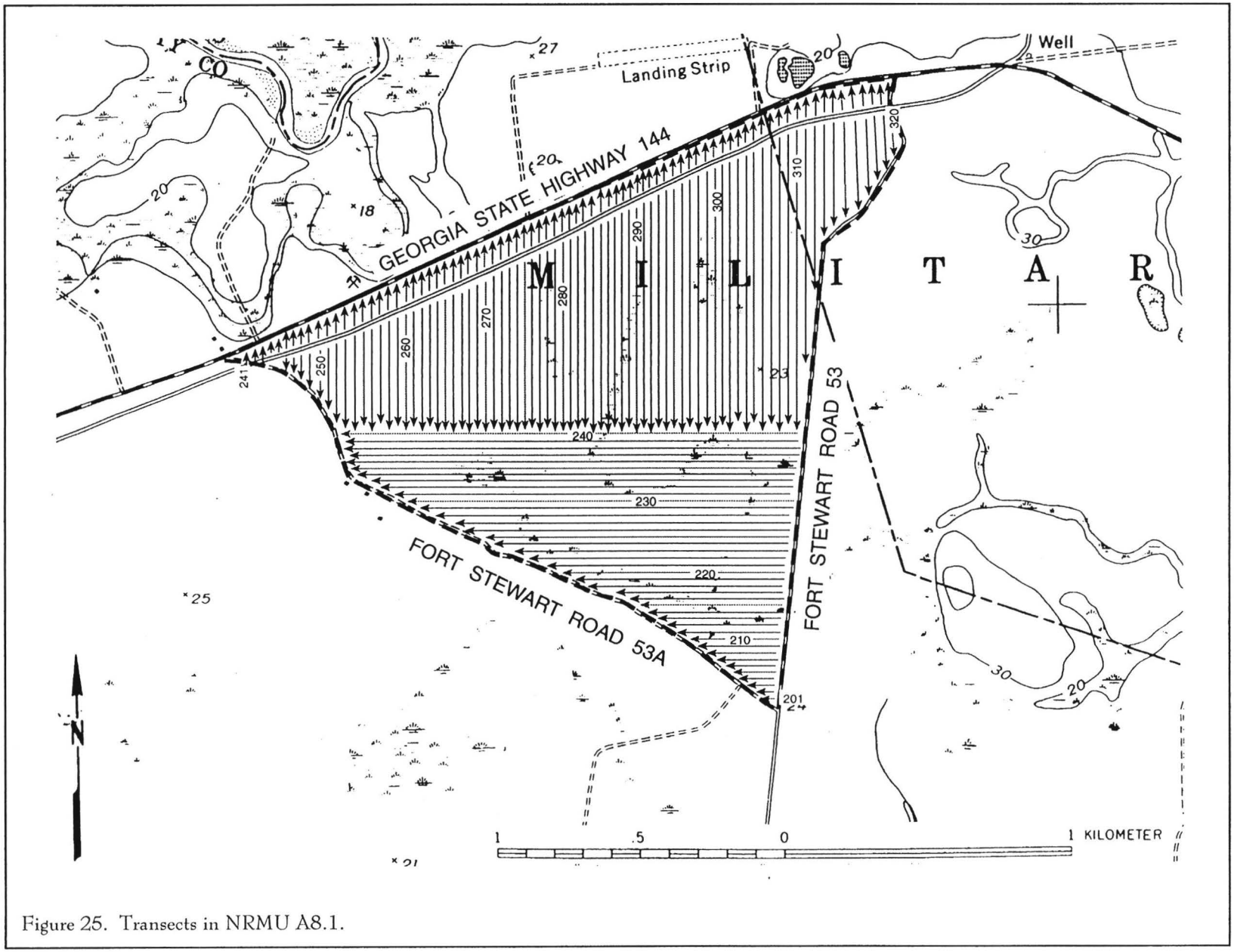

Figure 25. Transects in NRMU A8.1.

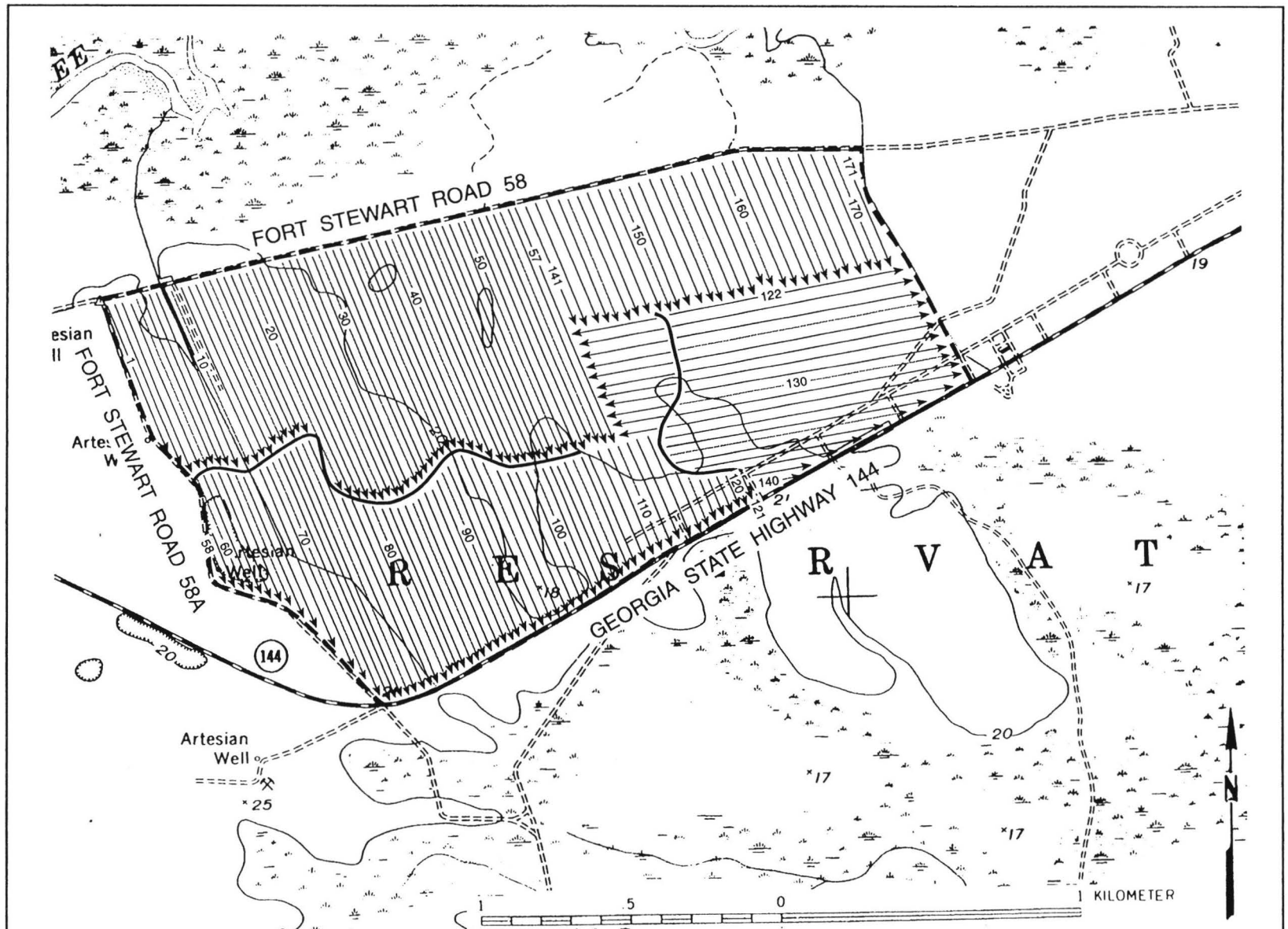

Figure 26. Transects in NRMU B24.2.

(for example, the PDOP mask, which is an indication of the accuracy of the GPS positions which are calculated, is set at 6, with PDOPs below 4 being excellent and above 8 being poor). Although at least 150 positions were recorded at each site location during the current survey, problems with a lack of data were encountered during postprocessing. This problem was discussed on previous surveys with Jeffrey A. Andrews, former LCTA Coordinator and GIS specialist at the Fort Stewart DPW/Forestry Branch, Colorado State University. Although unable to isolate problems concerning a lack of data, he did note that "on occasion a GPS unit will not record any positive hits" (Jeff Andrews, personal communication 1996).

To further explore the validity of our settings and instrument, we asked the former LCTA Coordinator and GIS Specialist at Fort Stewart, Jeffrey A. Andrews, to conduct a baseline comparison to determine the accuracy of our unit. The comparison was made using Fort Stewart's LCTA GPS unit, a Trimble Pro-XL running Asset Surveyor. This base unit, operating in overdetermined mode is capable of an accuracy of ±20 cm.

Results of the test confirmed that "under ideal circumstances and proper operation the Trimble GEO Explorer was accurate to within a meter of the reading collected by the Pro-XL." Mr. Andrews, however, does go on to note that the comparison was conducted under ideal circumstances and that the accuracy of our Trimble GEO Explorer "may deteriorate under less than ideal conditions (i.e., dense overstory)" (letter from Jeffrey A. Andrews, dated November 4, 1996).

As discussed in the previous report (Campo et al. 1999:74), GPS coordinates used in previous surveys have been unsatisfactory partially due to the use of NAD (North American Datum) 83 setting at both the base station at Fort Stewart and the rover used by Chicora, while USGS topographic maps are still printed using NAD 27. Many of these previously gathered coordinates were also affected by multipathing, caused by the dense tree cover in the survey tracts during the summer.

Both hand plotted and GPS coordinates for all sites are recorded in Table 13. These sets of coordinates are much closer than those for previous surveys, and the GPS coordinates appear to be more accurate than when previously collected. There are two reasons for this higher level of GPS accuracy. First, a conversion was performed on the NAD 83 coordinates received from the base station so that these coordinates would correspond to the NAD 27 USGS topographic maps. Secondly, all of the sites recorded during this survey, which was conducted in the fall, were located in areas that did not have a very dense tree cover, or sites were located on historic roads, which provided a clear view for satellites.

Table 13.
UTM Coordinates for Sites in All Survey Tracts

	GPS		Map Interpolation	
Site	N	E	N	E
9BN181	3536374	458290	3536300	458360
9BN182	3536283	458855	3536210	458980
9BN183	3536961	459077	3536880	458960
9BN184	3537121	459746	3537040	459500
9BN186	3535972	460072	3535980	460070
9BN113	3536498	460122	3536500	460120
9BN185	3536480	460118	3536470	460130
9LI420	3535389	455212	3535360	455160
9LI422	3536323	455607	3536340	455600

No deviations from the original methodology described in the Scope of Work other than those mentioned before occurred during the field work. No other unusual or expected problems occurred during the study which affects the quality of the data.

Laboratory Methods

The cleaning of artifacts and cataloging of the specimens was conducted during rain days in the field and completed at Chicora laboratories in Columbia in February 1999. The materials have been curated at Fort Stewart and have been cataloged using that institution's accessioning practices which are an adaptation of those used by the University of Georgia at Athens. No specimens were identified which required conservation or stabilization. Specimens were packed in

conservation or stabilization. Specimens were packed in plastic bags and boxed. Field notes were prepared on pH neutral, alkaline buffered paper and photographic materials were processed to archival standards. All field notes, with archival copies, have also been curated with this facility.

Analysis methods focused on occupation spans, likely functions of the various sites, and changes in raw material or ceramic preferences. With prehistoric sites, diagnostic lithics and/or ceramics provide temporal information. The ceramics were compared to published type descriptions where available (such as DePratter 1991) or relied on general descriptions (such as Snow 1977).

Diagnostic projectile points were likewise compared to published type descriptions (such as Coe 1964 or Bullen 1975). Georgia has, however, borrowed heavily from neighboring states. Often the type descriptions are poor and frequently the materials are poorly recognized or duplicate types in other states. We have tried, where ever possible, to simplify rather than make more complex, the identification of points.

Analysis of the historic collections follow professionally accepted standards with a level of suitability to the quantity and quality of the remains. In general, the temporal, cultural, and typological classifications of historic remains follow such authors as Cushion (1976), Godden (1964, 1985), Miller (1980, 1991), Nöel Hume (1978), Norman-Wilcox (1965), Peirce (1988), Price (1970), South (1977), and Walton (1976). Glass artifacts are identified using sources such as Jones (1986), Jones and Sullivan (1985), McKearin and McKearin (1972), McNally (1982), and Vose (1975). Sutton and Arkush (1996) provide an excellent overview of a broad range of other historic material, although primary sources will typically be provided in the text if the remains require a more detailed analysis.

RESULTS OF SURVEY

Introduction

The cultural resources identified during the intensive survey of 793.22 ha, encompassing three separate tracts, consisted of five sites and four isolated occurrences (Table 14). No sites were located in survey tract NRMU A6.4.

Of the five sites found, only one is a previously recorded site, 9BN113, in NRMU B24.2. Newly recorded sites include isolated find 9LI420 and site 9LI422 in NRMU A8.1; and site 9BN181, site 9BN182, isolated find 9BN183, isolated find 9BN184, isolated find 9BN185, and site 9BN186 in NRMU B24.2. The size, component, quad map, artifact number and eligibility recommendations for each site are shown in Table 14.

Only one of the sites, Roding Range, site 9BN186, is recommended as indeterminate (potentially eligible) for inclusion on the National Register. Only a portion of this site is located in survey tract NRMU B24.2, and is therefore necessarily considered indeterminate (potentially eligible). The remaining sites (9BN181, 9BN182, 9BN183, 9BN113, 9LI422) are recommended as not eligible for inclusion on the National Register.

The isolated historic finds include 9BN184, 9BN185, and 9LI420. Isolated finds 9BN183 and 9LI420 are prehistoric occurrences. None of these isolated occurrences, pending review of Fort Stewart and the Georgia State Historic Preservation Division, are considered eligible for inclusion on the National Register of Historic Places.

Sites Recorded in Survey Tract NRMU A8.1

One site and one isolated find were recorded in survey tract A8.1, which sits south of Georgia State Highway 144 and west of Fort Stewart Road 53 (Figure 27). 9LI420 is an isolated prehistoric find and 9LI422 is an historic site. Find 9LI420 is located in the central section of the survey tract and 9LI422 is located north of the tank road that runs through the survey tract.

Survey tract NRMU A8.1 also contained a number of modern, small earthworks, presumably constructed by the military and used for training exercises. These earthworks were not treated as sites or

Table 14.
Archaeological Sites in Survey Tracts

Site	Component	Size	Artifact #	Quad Map	Eligibility
9BN181	Historic site	3200 m^2	107	Limerick NW	IE
9BN182	Historic site	4800 m^2	71	Limerick NW	IE
9BN183	Isolated find	1 m^2	1	Limerick NW	IE
9BN184	Isolated find	1 m^2	1	Limerick NW	IE
9BN185	Isolated find	1 m^2	1	Limerick NW	IE
9BN186	Historic site	144000 m^2	2	Limerick NW	IN
9BN113	Historic site	8800 m^2	294	Limerick NW	IE
9LI420	Isolated find	1 m^2	5	Limerick NW	IE
9LI422	Historic site	600 m^2	7	Limerick NW	IE

IE=ineligible
IN=indeterminate

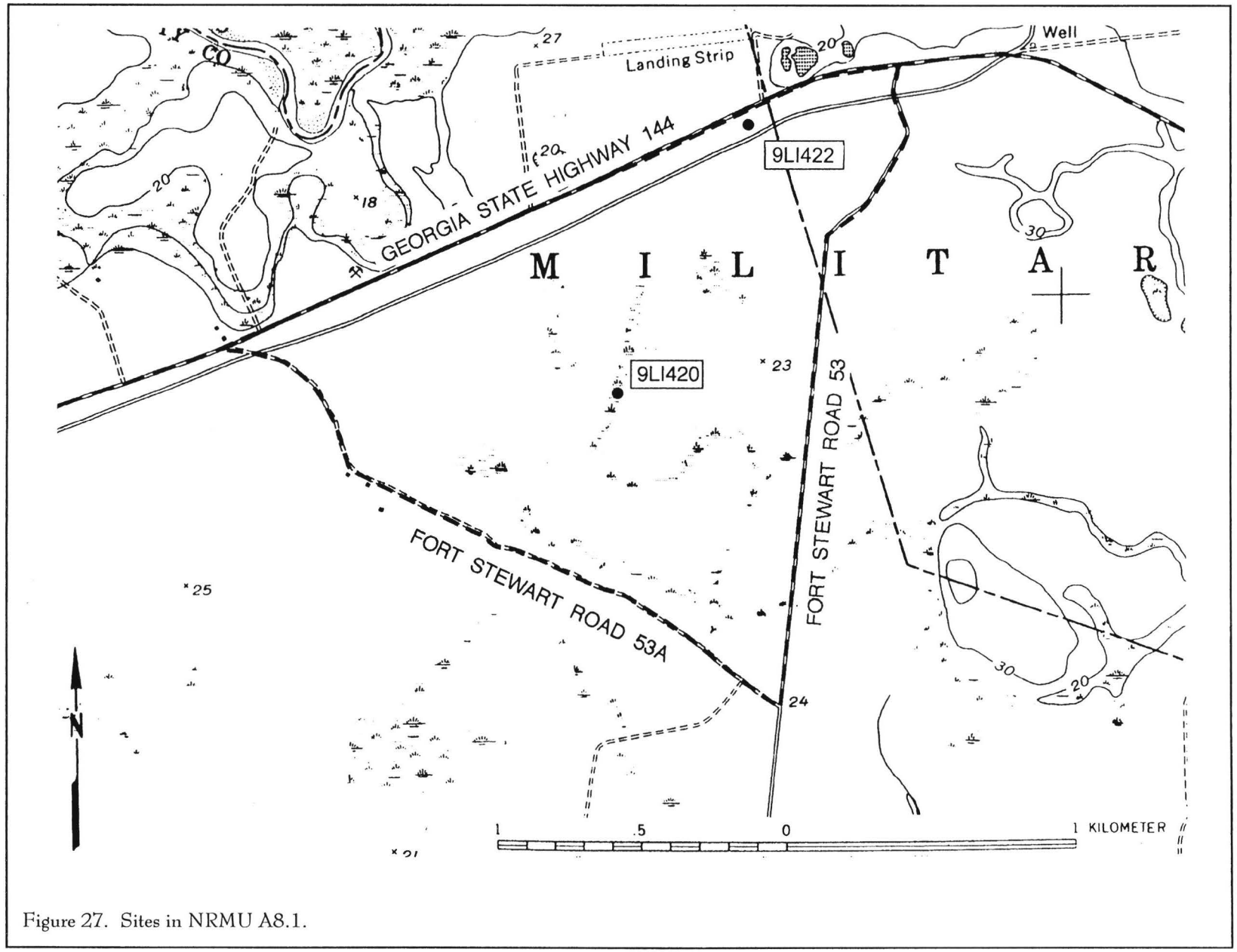

Figure 27. Sites in NRMU A8.1.

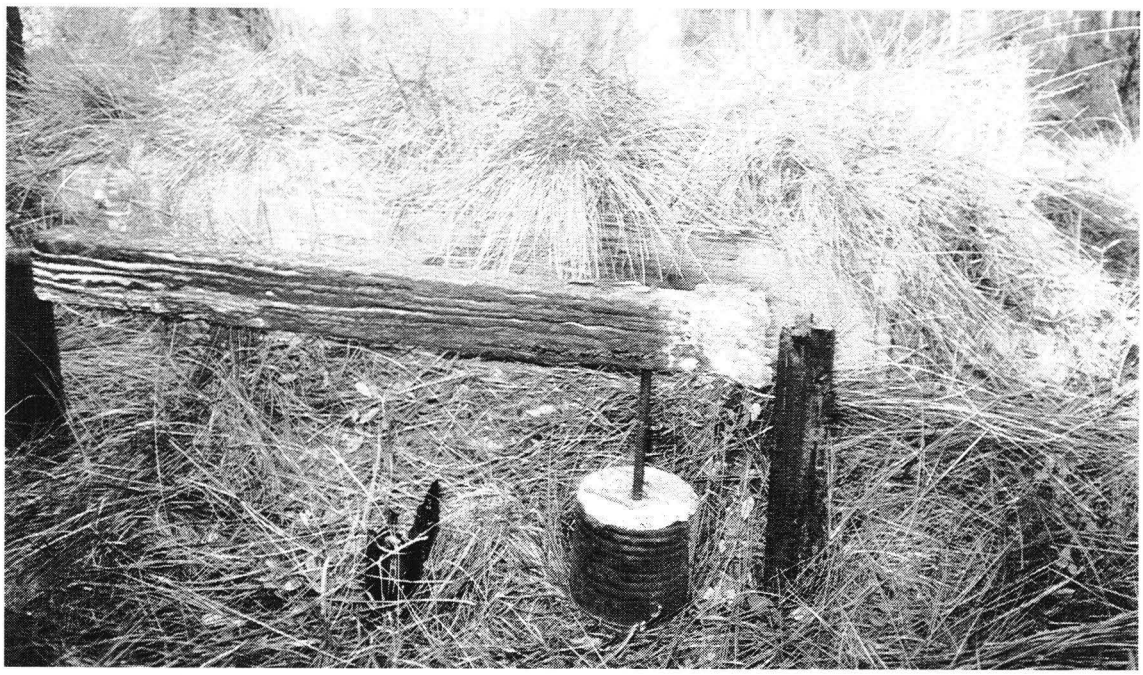

Figure 28. View of modern military training earthworks in NRMU A8.1. View to the northeast.

given site numbers because it is presumed that these are simply part of military training used within the last fifty years, and do not represent archaeological sites. Information on these small earthworks would be best derived from military training records, rather than archaeological research.

These earthworks consist of mounded earth with wood plank retaining walls on two sides. Near one of the retaining walls, there is a horizontal metal swinging arm attached to two stationary vertical wood planks. The swing arm contains a weight on one end that appears to be constructed of a coffee can filled with concrete (Figure 28). These areas may have been used for target practice. In close proximity to these earthworks are rounded depressions surrounded by barbed wire. The exact function and nature of these constructions is unknown.

Isolated Find 9LI420

9LI420 is an isolated prehistoric find located approximately 800 m south of Georgia State Highway 144. The central GPS UTM coordinates are N3535389 E455212 and the elevation is 6 m AMSL. The find is situated in an area just west of a seasonal swamp. Vegetation consists of mixed hardwoods, planted pines, and sparse grasses. East of the find, the vegetation is more heavily forested with a dense underbrush.

Four tertiary chert flakes and a secondary chert flake were recovered from Shovel Test 25 on Transect 287, at 65 cm below the surface during routine shovel testing of NRMU A8.1 (Figure 29). Eight additional shovel tests placed in a cruciform pattern revealed no other artifacts. Shovel tests were excavated to a minimum depth of 45 cm, although most extended to 75 cm below the surface. Site 9LI420 is located on Ocilla loamy fine sand, a somewhat poorly drained soil that was surveyed as a high probability soil.

The small data set, consisting of only one type of artifact, and the general context for the site does not allow for important research questions to be identified,

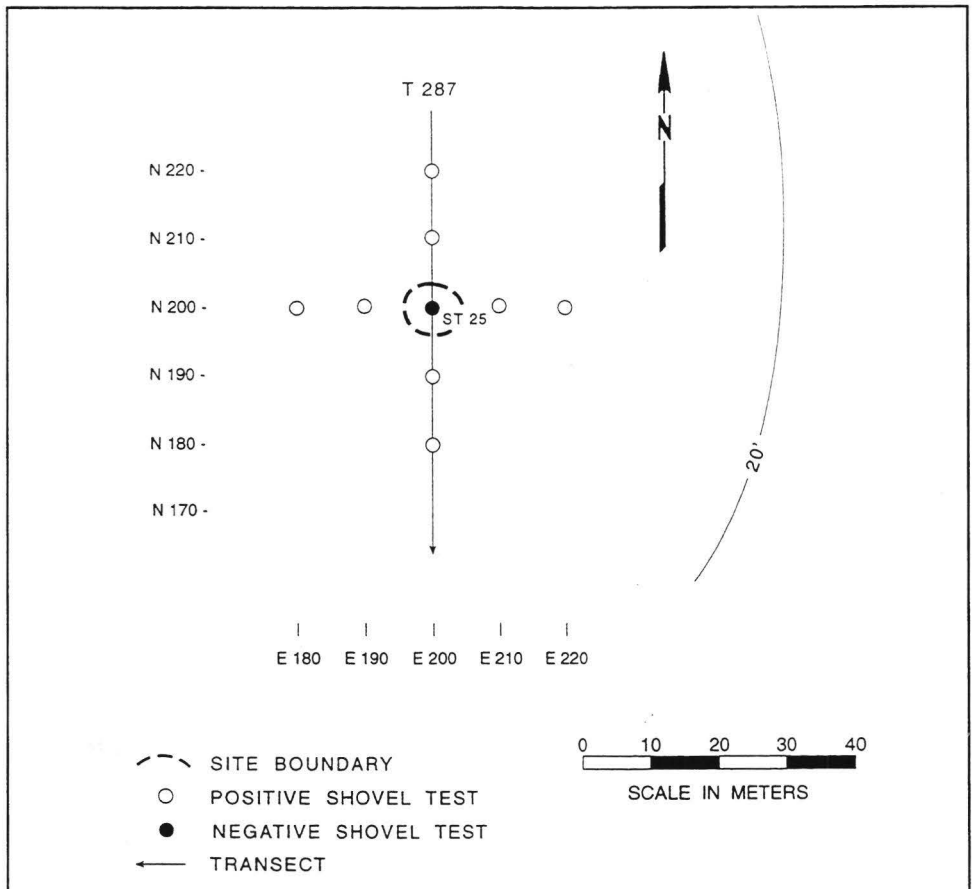

Figure 29. Map of isolated find 9LI420.

Investigation of this site was based on the surface observation of a large number of Herty cup fragments present in a shallow depression between Shovel Tests 1 and 2 on Transect 304. Shovel tests, which ranged in depth from 20 to 35 cm below the surface, placed around the depression's perimeter (Figure 31) revealed no artifacts above or below the surface. Examination of the trees in the area, which included planted pines and some mixed hardwoods, revealed no trees altered for the purpose of collecting gum. None of the fragmented Herty cups were collected from the surface.

A 50 cm by 50 cm excavation unit was placed at the northwestern edge of the depression (N205 E190). The unit was excavated to a depth of 20 cm below the surface where hard pan soil was encountered and could not be further excavated. A total of five Herty cup fragments were recovered from the first ten centimeters below the surface, and a total of two Herty cup fragments were recovered from the ten to twenty centimeter level. No other artifact types were recovered from the test unit. Because no intact Herty cups were noted at the site, it is possible that the cups were deposited in this area because they were broken and could no longer be used to collect sap, or the Herty cups may have been picked over by people working in the Fort Stewart area, with whole cups being taken away. It is unlikely that this site represents a turpentine camp or still since no other artifacts or turpentine trees were located in the area.

or answered. For this reason, site 9LI420 is recommended as ineligible for inclusion on the National Register of Historic Places. No further management work is recommended for this site.

Site 9LI422

Site 9LI422 is a subsurface and surface scatter historic scatter, measuring 20 m by 35 m, consisting only of broken Herty cups (Figure 30). The site is located on a relatively flat strip of land between Georgia State Highway 144 and the tank road parallel to the highway, about 60 m south of Georgia State Highway 144. Central GPS UTM coordinates for the site are N3536324 E455608 and the elevation is 6 m AMSL.

Figure 30. View to the north of site 9LI422.

The test unit soils consisted of 15 cm below the surface of 10YR5/1 gray sandy clay and five additional centimeters of mottled hard pan gray sandy clay (10YR5/2) and yellowish brown clay (10YR5/4). The B horizon for Pooler soils generally occurs at 12.7 cm to 1.42 m below the surface and consists of sandy clay and sandy clay loam, suggesting that these soils have been deflated.

In order to determine a site's eligibility for the National Register of Historic Places (NHRP), a number of issues must first be addressed, including the site's data sets, an identification of the site's context, important research questions that the site *may* be able to address, and the evaluation of the site's archaeological integrity. The data sets, or categories of archaeological information, present at the site only Herty cup remains, with no other ceramics, glass, subsistence remains, architectural remains, or subsurface features located during shovel testing. Herty cups were used only after 1900, placing the context of the site in the early twentieth century. While this type of site may address significant research questions examining the naval stores industry in early twentieth century Georgia, the lack of other remains or features associated with the turpentine industry limits any research questions that can be examined. Two factors suggest that the site's integrity is low. First, the A horizon soils have been depleted, most likely affecting the site, which has a dense surface concentration and a shallow subsurface concentration of artifacts. Second, the construction of the nearby tank road may have adversely affected the site.

Site 9LI422 is recommended as ineligible for inclusion on the NRHP because it does not possess the data sets necessary to answer significant questions, and because the site does not seem to have the integrity necessary to ensure that the data sets were sufficiently preserved for further research. No further management work is recommended for this site.

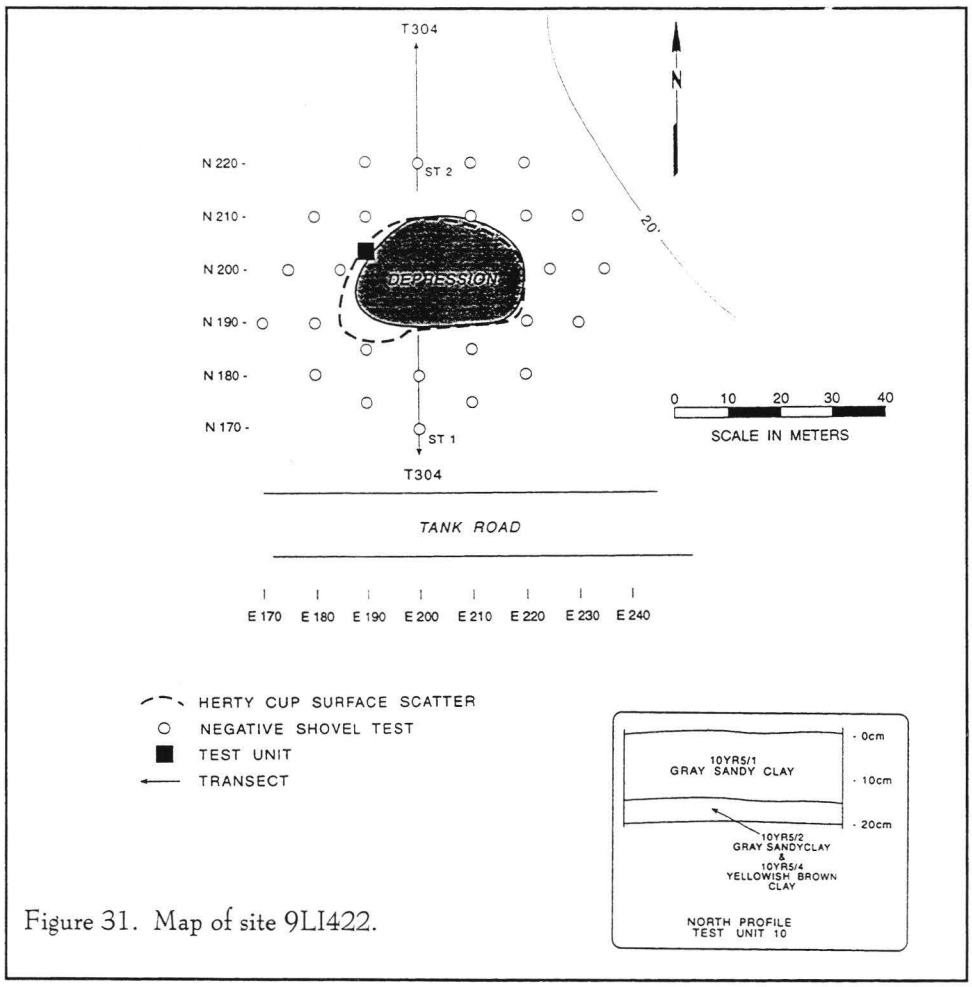

Figure 31. Map of site 9LI422.

Sites Recorded in Survey Tract B24.2

Six new sites and one previously recorded site were located in survey tract B24.2, located north of Georgia State Highway 144 (Figure 32). These include four historic sites (9BN181, 9BN182, 9BN113, and 9BN186), two isolated historic finds (9BN184 and 9BN185), and an isolated prehistoric find (9BN183). In addition, two rectangular Herty pans and a rectangular metal McCoy pan for collecting gum were recovered from the surface of three transects (T122 ST 10, T123 ST 3, and T174 ST 2) in NRMU B24.2. The surrounding shovel tests were negative and further testing was not undertaken. The field crew did report the general location of turpentine trees in the general area of these transects. Previously, testing areas where surface Herty cups were collected produced no other artifacts (Campo et al. 1999:89), suggesting that the isolated occurrence of Herty cups and pans does not indicate the presence of a site.

Site 9BN113

Site 9BN113 was previously recorded by David McKivergan of Bregman and Company, Inc., Fort Stewart's Consulting Archaeologist, in August 1995 as an historic scatter of artifacts covering a wooded area of 1,200 m^2. The area was recorded as razed and endangered by military activities, and was recommended as ineligible. The only artifacts collected were milk glass. The central UTM coordinates recorded are N3536498 E460122.

The site was relocated based on positive shovel tests on Transect 126 and 127. The large site crosses an un-named road that connects to Georgia State Highway 144. Only one positive shovel test was located on the east side of the road, with the remainder of the site occurring on the west side of the road (Figure 33). At the southwestern edge of the site, a collapsed wire fence line and turpentine tree were noted. The site sits on the edge of a low swampy area and the vegetation consists of planted pines, mature oaks, and cypress tress in the swampy area. Adjacent to the un-named road and a large mature oak, there are low push piles of dirt, suggesting that the site has been disturbed, perhaps by bulldozers. The central GPS UTM coordinates are N3536498 E460122 and the elevation is 12 meters AMSL.

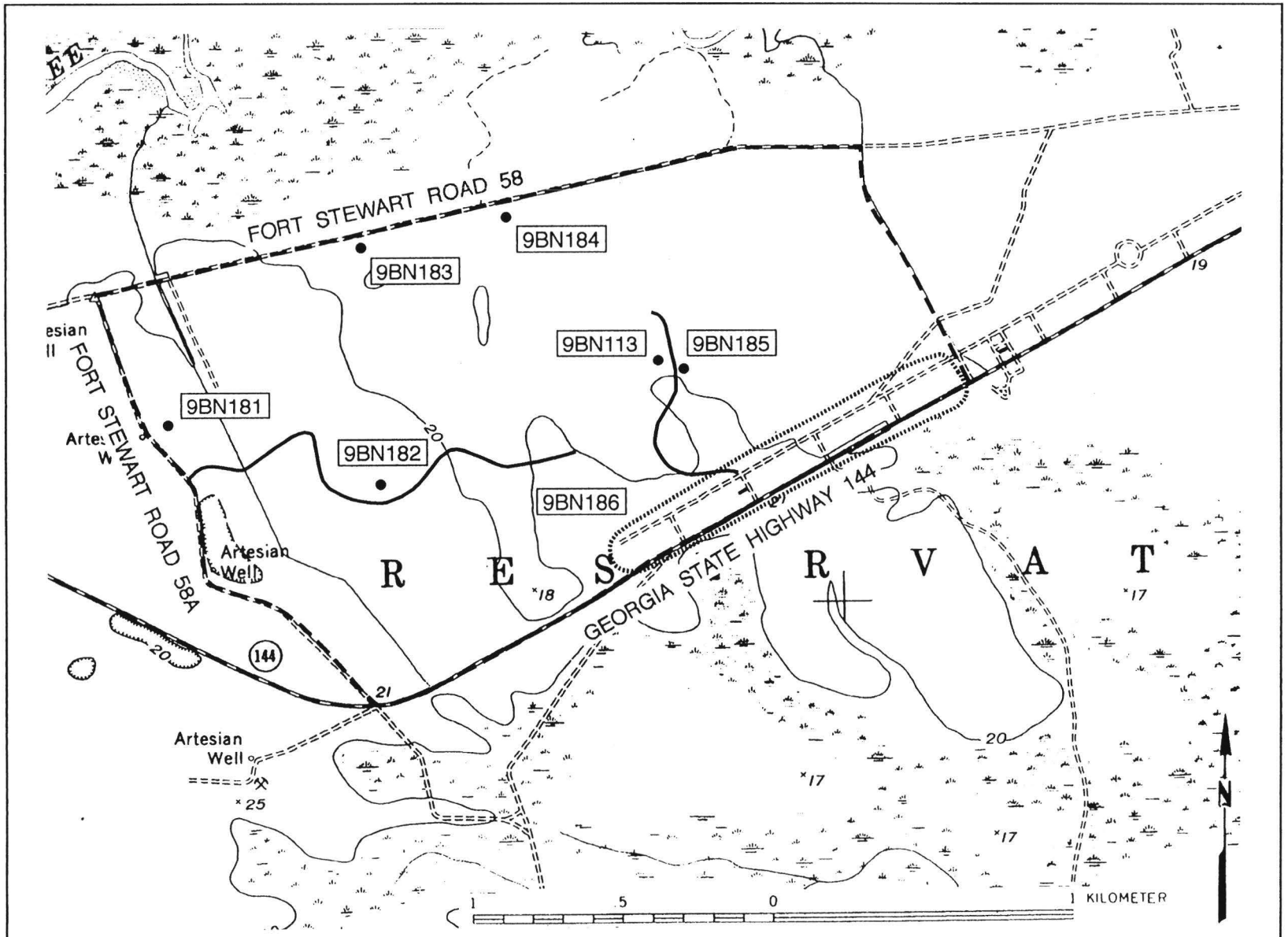

Figure 32. Sites in NRMU B24.2 (9BN 113 is a previously recorded site).

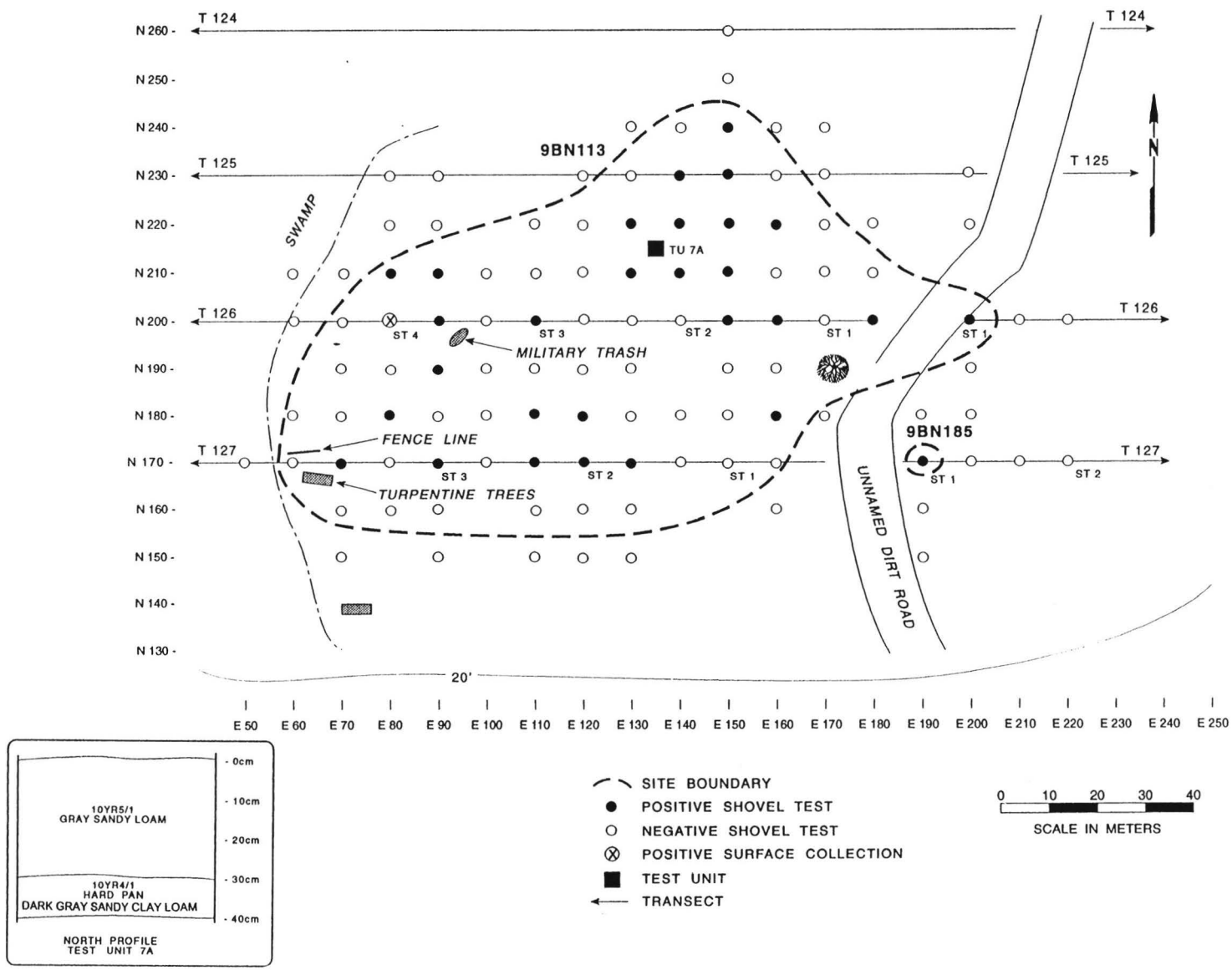

Figure 33. Map of sites 9BN113 and 9BN185.

Table 15.
Artifacts Recovered from 9BN113

Provenience	Glass	White Ware	Stone Ware	Nails	Window Glass	Miscellaneous
N200 E80 Sur.	1					
N170 E70						1 prehistoric sherd
N170 E90	3			2		1 bullet, 1 prehistoric sherd
N170 E110	2		1			
N170 E120	22	2		4		1 suspender button
N170 E130		2	1			1 oyster shell fragment
N180 E80	1					
N180 E110	6	6				
N180 E120		2				
N180 E160	1					
N190 E90	1	1				
N200 E90						1 industrial iron stand
N200 E110		3	1			2 UID material
N200 E150	2	1				1 milk glass button
N200 E160		1		1		
N200 E180	4					
N200 E200	84	2		1	1	1 white porcelain
N210 E80	2					
N210 E90	2		2			
N210 E130	11	5		9		1 prehistoric sherd
N210E140	2	1		2		
N210 E150		1				
N220 E130	2					
N220 E140	1	1				
N220 E150	3	1				1 black glass button
N220 E160	8					
N230 E140	2					
N230 E150	9					
N240 E150			2			
TU7 (0-10cm)	6	1		1		1 Herty cup fragment, 1 iron fragment
TU7 (10-20cm)	12	5		9		1 iron fragment
TU7 (20-30cm)	5			8		
TU7 (30-40cm)				1		
Total	192	42	7	38	1	14 (294)

A total of 103 shovel tests and test unit excavation produced 29 positive shovel tests and a total of 294 artifacts. The depth of all shovel tests ranged from 25 to 45 cm below the surface. Included in the large amount of historic artifacts are three prehistoric sherds. Artifacts from 9BN113 represent kitchen, architecture, and arms group artifacts (Figure 34), listed in Table 15. A few of these artifacts helped determine that the site was occupied during the early twentieth century. For example, the wire nails date to the later part of the nineteenth century and the twentieth century, the Herty cup, represented by one fragment, was produced after 1900, and the blue and brown tinted whiteware was produced from 1911 to 1970. The late nineteenth century mean ceramic date (Table 16) of 1861 seems to suggest that the site may actually have an earlier date than that suggested by the few artifacts mentioned above. However, the overwhelming majority of ceramics recovered from 9BN113 is undecorated whiteware sherds, which complicate what seems to be a simple date. Undecorated whiteware has a mean ceramic date of 1860 and was produced from 1813 to 1900. Ceramics, and their mean ceramic date, are often used as a good indication of the time span of a site. In this case, the large amount of undecorated whiteware with a manufacture date spanning more than 80 years does not provide a

Table 16.
Mean Ceramic Date for 9BN113

Ceramic	fi	xi	fi x xi
Whiteware, blue tp	1	1848	1848
Whiteware, tinted	1	1941	1941
Whiteware, undecorated	40	1860	74400
	42		78189

78,189 ÷42=1861.64

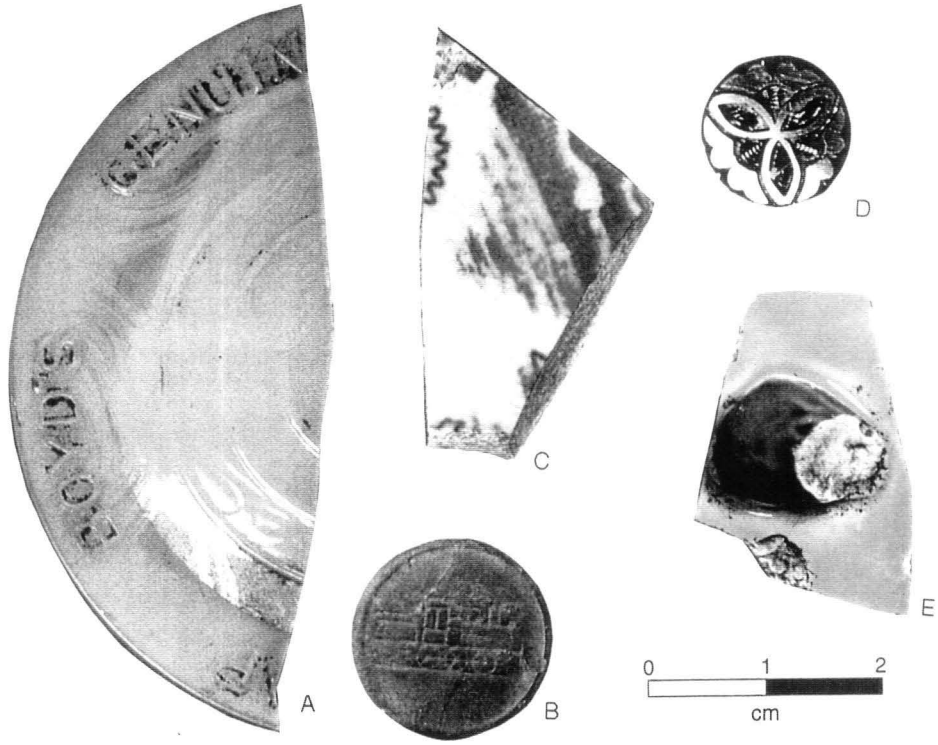

Figure 34. Artifacts recovered from 9BN113. A, milk glass canning jar lid; B, suspender button; C, blue transfer print whiteware; D, black glass button; E, blue and brown tint whiteware.

precise chronological control for the site, limiting the utility of the mean ceramic date. Some archaeologists have suggested that the mean ceramic date does not work well for late nineteenth and early twentieth century sites (Majewski and O'Brien 1987:171). The first problem in relying on this mean ceramic date to accurately pinpoint the occupation date for 9BN113 is that the fragments of undecorated whiteware recovered from the site may actually represent decorated pieces (with earlier or later dates) that have not been preserved in the archaeological record. The second problem in relying exclusively on the mean ceramic date is that it does not account for the use of ceramics beyond their manufacture periods. It is possible that the whiteware at 9BN113 may have been acquired near the end of ceramic's manufacture period and used for many years afterward. For these reasons, it is best to consider other ceramics at the site (as we have done here) and not rely exclusively on a mean ceramic date in this case.

The artifact density was concentrated at a few shovel tests- N200 E200, N170 E120,and N210 E130- with the remainder of the tests containing less than 10 artifacts per test. Most of the dense shovel tests had high numbers of container glass. Based on the shovel tests and positive surface collection, the site covers an area measuring 8,800 m^2.

Site 9BN113 is located on Craven soils, a moderately well drained soil series, with an A horizon of loamy fine sand and loam to 31 cm below the surface and a B horizon of sandy clay, sandy clay loam, and sandy loam to 1.9 m below the surface. The test unit soils include a gray (10YR5/1) sandy loam to a depth of

30 cm below the surface, and a hard pan dark gray (10YR4/1) sandy clay loam to a depth of 40 cm below the surface. Excavation of the unit stopped at this level due to the hard pan soils, which were extremely dried out with a consistency similar to concrete.

The data sets at site 9BN113 are large, and include glass, ceramic, and metal kitchen artifacts, window glass and nail architecture artifacts, personal items, such as buttons, and an arms artifact. There is also the remnant of a wire fence line. There are no architectural ruins, or subsistence remains. A previous archaeological study of a nineteenth and twentieth century tenant house (Trinkley and Caballero 1983) demonstrates that well preserved features, faunal material, and ethnobotanical remains can be found at tenant sites with good integrity. Such remains were not recovered from site 9BN113, suggesting that the site is not intact.

The historical context of site 9BN113, determined by artifact analysis, is the early twentieth century. The 1920R1926 Limerick USGS topographic map does show a structure in the area of this site. This area of Fort Stewart was acquired in 1941, with an acquisition map drawn in 1946. Most houses and structures were razed and bulldozed at this time. This would suggest that the site may have been occupied for up to 50 years.

Site 9BN113's integrity must also be evaluated to ensure that the data sets are sufficiently well preserved. This discussion of integrity is based on test unit soils, shovel test soils, the landscape around the site, and the size of the site. Test unit soils, as mentioned above, are hard pan 40 cm below the surface. Shovel test soils, when compared to the general soil profile for the area, indicate that the soil in the area has been depleted, also affecting the integrity of the site. The landscape shows evidence of razing or bulldozing in the form of now overgrown pushpiles of dirt at the east side of the site. The large extent of the subsurface artifacts, covering an area that measures 8,800 m^2, maybe due in part to bulldozing or razing of the area. These factors suggest that the site's integrity is questionable, and data sets may not be well preserved.

There are a number of research questions that can be asked of early twentieth century sites concerning economic reliance on naval stores, the growth of agriculture in the early 1900s (Campbell et al. 1996:126), the status of tenant farmers in this area, and the distribution of goods via roads and the Canoochee River. These types of questions would require precise chronological control, data sets that included representatives of all artifact categories outlined by South (1977:95-96), subsistence remains, possible architectural ruins or the presence of bricks, and the possibility for subsurface features. There are only a few artifacts that indicate the possibility for precise chronological control at site 9BN113. However, the large percentage of undecorated whiteware (compared to other ceramic types at the site) with a manufacturing period spanning more than 80 years, would not provide this precise control. While the site does contain a large amount of artifacts, these artifacts only represent three artifact categories. Site 9BN113 also lacks architectural ruins or brick concentrations. Admittedly, little archaeological work has been done on tenant sites in Georgia. However, it is unlikely that this site would serve as a good example of a tenant site. Based on the diminished integrity of the site, it is also unlikely that subsurface features have been preserved.

Based on these analyses, site 9BN113 is recommended as ineligible for inclusion on the National Register of Historic Places. No further management work is recommended for this site.

Site 9BN181

Site 9BN181 is a historic site located on the western edge of survey tract NRMU B24.2 and adjacent to Fort Stewart Road 58A, approximately 750 m north of Georgia State Highway 144.

The central GPS UTM coordinates are N3536374 E458290 and the elevation is 6 m AMSL. Vegetation at the site includes a few large mature oaks, planted pines, and mixed hardwoods on the edge of an open field of sparse grasses, and a scrub understory.

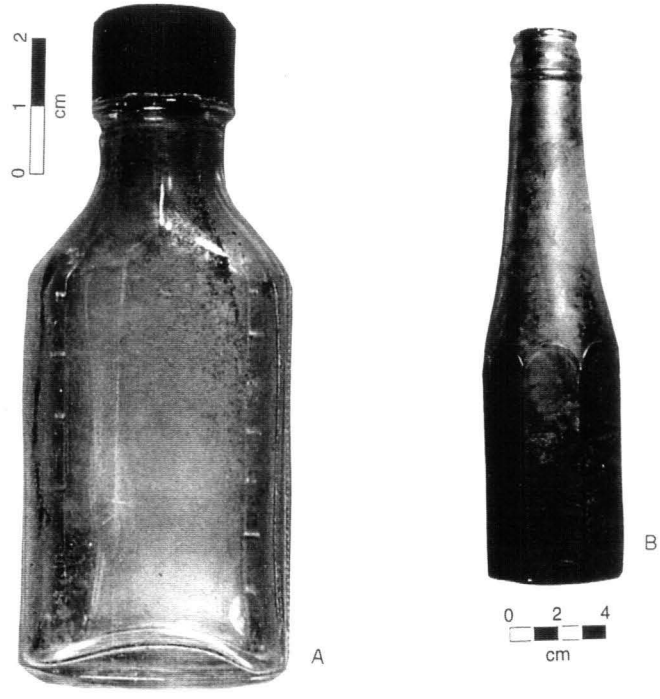

Figure 35. Bottles recovered from the surface of site 9BN181. A, medicine bottle from N200 E200; B, condiment bottle from N180 E230.

Shovel Tests 16 and 17 on Transect 5 (N200 E200 and N170 E200, respectively), running south from Fort Stewart Road 58, revealed an undecorated whiteware fragment, two clear glass fragments, and an aqua glass fragment. The surface of the site was littered with whole glass bottles and beer cans (Figure 35).

Further testing demonstrated that the site was confined to an area measuring 3,200 m^2 between Transect 6 and Fort Stewart Road 58A (Figure 36). Thirty-six additional shovel tests produced 11 positive shovel tests and eight positive surface collections were noted. Only a sample of surface artifacts were collected, while the rest were noted but not collected. Surface artifacts collected from collection units include a French's mustard bottle from N180 E210, clear condiment bottles from N180 E220 and N180 E230, and two clear medicine bottles from N200 E200. Artifacts recovered from testing at 9BN181 are shown in Table 17. A total of 107 artifacts were collected and excavated from the site. Shovel tests ranged in depth from 20 to 45 cm below the surface.

The test unit, placed at N175 E205, reached a depth of only 20 cm below the surface, due to the hard pan condition of the soil. In the 0 to 10 cm level, less than ten brick fragments were

Table 17.
Artifacts Recovered from 9BN181

Provenience	Glass	WW	SW	EW	Nails	Window Glass	
N140 E200	2		1				
N150 E200	2						
N160 E210	5	1	1				
N170 E200	1	1					
N170 E210	10	1			9	11	
N180 E190	1						
N180 E200	3	1					
N180 E210	16						
N180 E220	4						
N180 E230	1						
N190 E190			1				
N200 E190	9						
N200 E200	4						
N200 E210	3			3			
TU 1 0-10 cm	4			1	9		
TU 1 10-20 cm					2		
Total	65	4	3	4	20	11	(107)

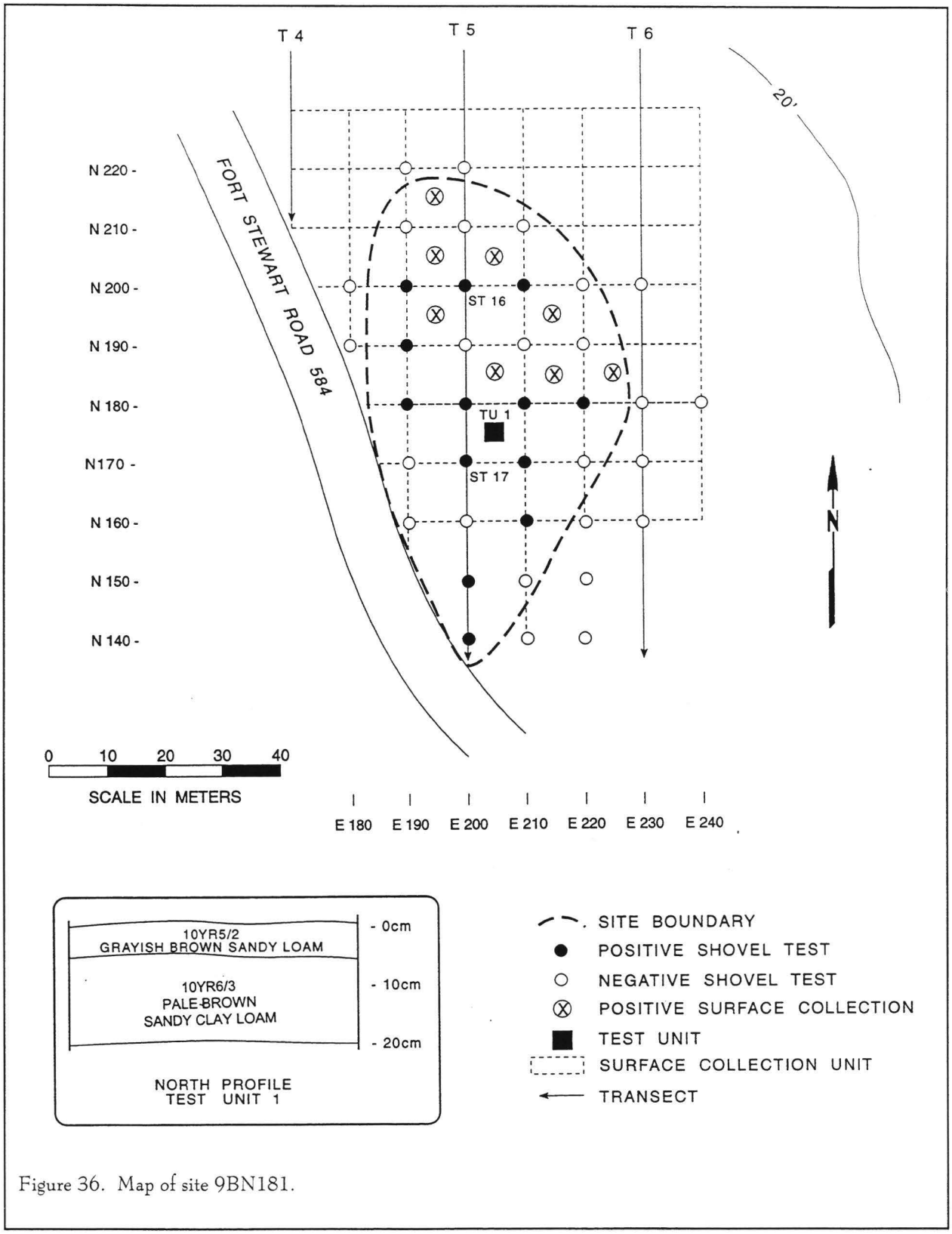

Figure 36. Map of site 9BN181.

observed but not collected. A bristol exterior stoneware fragment, four clear glass fragments, and nine unidentified nail fragments were recovered from the first level. In the second level, 10 to 20 cm below the surface, only two unidentified nail fragments were recovered.

The test unit soils consisted of grayish brown (10YR5/2) sandy loam to 5 cm and pale brown (10YR6/3) sandy clay loam to a depth of 20 cm. The base of the excavation was a yellowish brown (10YR5/8) hard pan sandy clay loam. The excavation of the unit stopped at only 20 cm below the surface because the soil was very dry and hard and could not be dug with a shovel. The unit was located near the historic road (a central location for positive shovel tests). Site 9BN181 is located on Ogeechee loamy fine sand, a somewhat poorly drained soils that is classified as a low probability soil (McKivergan 1998), but was surveyed as a high probability soil. In general, these soils consist of a loamy fine sand to 20 cm below the surface, and a sandy clay loam to sandy clay up to 1.5 m below the surface. A comparison of the Ogeechee soil description and the test unit soils suggests that these soils have been depleted. The topography shows signs of disturbance, such as large ruts in the ground, which may have been caused by large vehicles, such as logging trucks, or bulldozers. In addition, the hardpan soils in the test unit suggest that the area has been compacted through use.

The data sets present at site 9BN181 include a number of artifacts related to both kitchen and architecture group artifacts. There are numerous glass fragments, and whole bottles, in addition to a small amount of nails and window glass. Three of the glass artifacts represent an additional three bottles, including a brown jug fragment, the lip from a manganese panel bottle, and the base of a clear rectangular bottle. Ceramic sherds are the least numerous artifacts recovered from the site. No other data sets, such as features, architectural remains, or personal artifacts were recovered from the site.

Analysis of the artifacts recovered from 9BN181 date the site to the twentieth century. The whole glass condiment and medicine bottles were manufactured in the twentieth century, as was a green NuGrape soda bottle, represented by two glass fragments. A bristol exterior stoneware fragment was also produced in the twentieth century. The site is not recorded on the 1920R1926 Limerick USGS topographic map, although the 1946 Fort Stewart Final Project Ownership map shows that the land was owned by G. E. Bashlor at the time of acquisition, suggesting that the site was used only after the 1920 map was revised in 1926. Although the site contained a fair amount of artifacts (107), only two artifact groups are represented, limiting the types of research questions that can be asked. With so few architectural artifacts, questions regarding the possible function of the site are difficult to address. In addition, while the historic maps suggest that the use of the site may be limited to the time period between 1926 and 1940, the data sets do not provide precise chronological control, which would be needed to address research questions. The disturbance in the area, caused by large vehicles, and the observance of hard pan soils in the test unit suggest that site 9BN181's integrity has been adversely affected by activities that have taken place in this area.

Based on this analysis site 9BN181 is recommended as ineligible for the National Register of Historic Places because it does not appear to possess the integrity or data sets necessary to address significant research questions. No further management work is recommended at this site.

Site 9BN182

Site 9BN182 is located approximately 750 m north of Georgia State Highway 144 in a relatively flat area. An un-named historic road bisects the site. The vegetation consists of planted pines, scrub oaks, grasses, and a large mature oak, situated just north of the historic road. The site is located on Wahee soils, a somewhat poorly drained soil that is classified as having indeterminate probability (McKivergan 1998), and was surveyed as a high probability soil. Shovel tests generally reached a depth of 35 cm below the surface. The test unit, placed at N175 E210, extended to a depth of only 20 cm below the surface. The unit was not excavated past this depth because the soil was very hard and compact, such as might be found in a

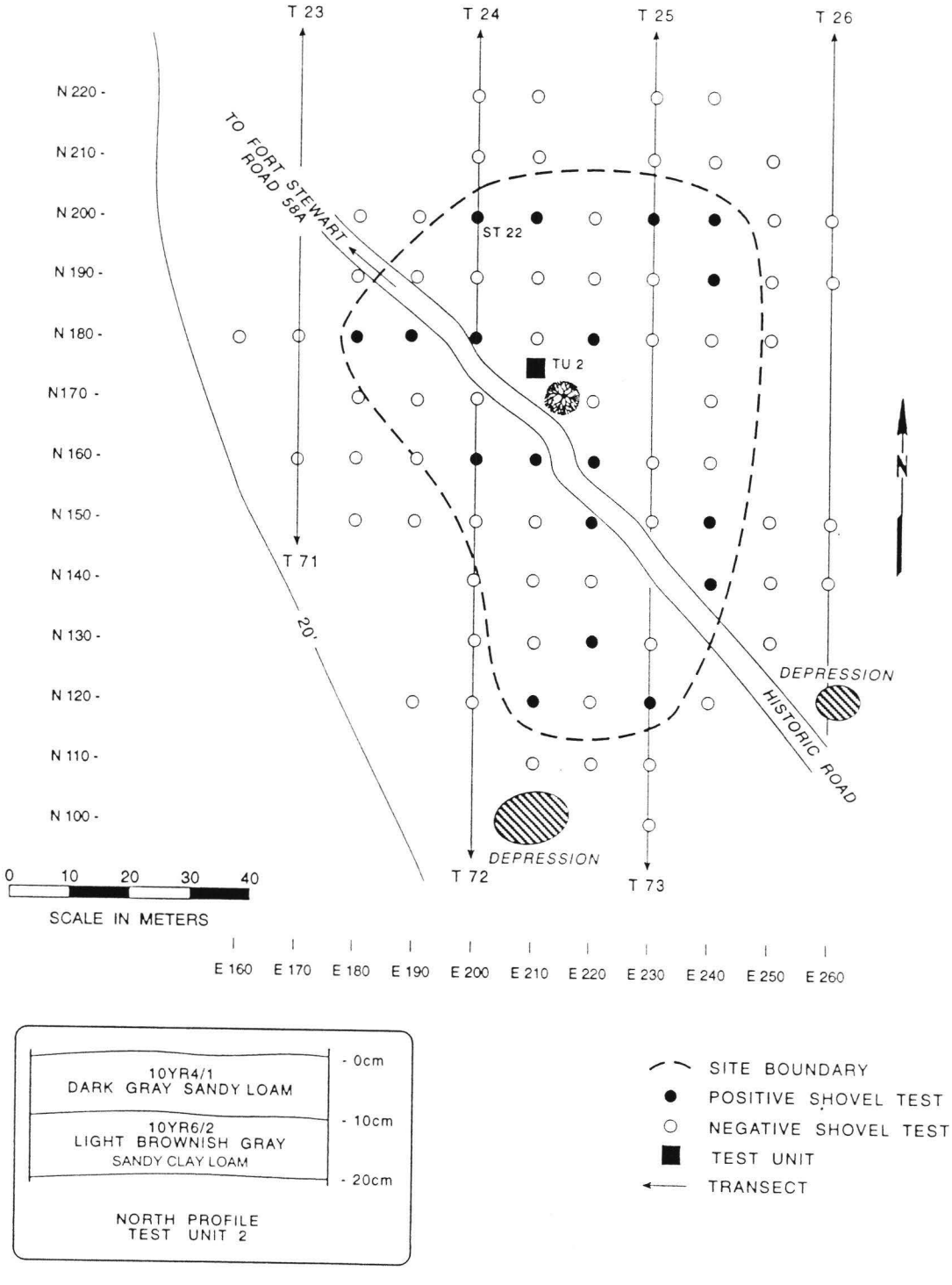

Figure 37. Map of site 9BN182.

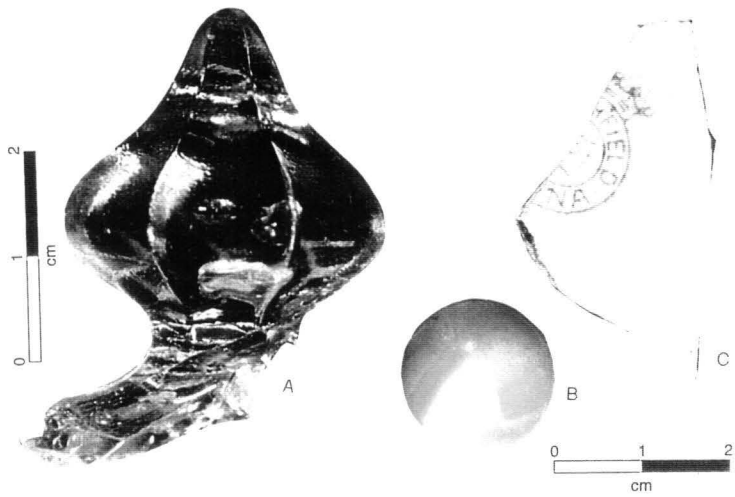

Figure 38. Artifacts recovered from 9BN182. A, manganese glass lid knob; B, glass marble; C, whiteware maker's mark.

roadbed, and could not be further excavated with a shovel. Hard pan soils suggest that the sediments were culturally deposited (as opposed to naturally water-lain sediments), which become more compact over time due to the poorly sorted sediments and the decay of organic matter (Schiffer 1987:204). The test unit soils consist of a dark gray (10YR4/1) sandy loam to 10 cm below the surface, and light brownish gray (10YR6/2) sandy loam to 20 cm below the surface. The A horizon for Wahee soils generally consists of sandy loam to 36 cm below the surface and a B horizon of sandy clay loam to clay from 36 cm to 1.9 m below the surface. A comparison of the soils suggests that the soils are intact.

Artifacts from Site 9BN182 were more varied than those at Site 9BN181, but were fewer in number. The site was first located based on positive Shovel Test 22 on Transect 24, which ran south from Fort Stewart Road 58 (Figure 37). This shovel test included one aqua glass, six clear glass, and one unidentified nail fragment.

Table 18.
Artifacts Recovered from 9BN182

Provenience	Glass	White-ware	Stone-ware	Nails	Window Glass	Miscellaneous	
N120 E210						1 burnt porcelain	
N120 E230		4					
N130 E220	4			2			
N140 E240	1		1			1 brick frag, 1 barbed wire frag 4 wire frag	
N150 E220	1				1	1 glass marble	
N150 E240	1						
N160 E200				5			
N160 E210				1			
N160 E220	5						
N180 E180		1	2				
N180 E190				2			
N180 E200	3			1			
N180 E220	1	1	1				
N190 E240	2						
N200 E200	7			1			
N200 E210	1					6 thin iron frag	
N200 E230	2					1 UID iron frag	
N200 E240	1	1					
TU 2 0-10 cm	1	1		1			
Total	30	8	4	13	1	15	(71)

Further shovel testing produced 18 additional positive shovel tests, which contained a total of 71 artifacts, listed in Table 18. One of these artifacts, an undecorated whiteware has a maker's mark for Clinchfield Pottery manufactured in Erwin, Tennessee between 1920 and 1930 (Kovel and Kovel 1986:104). Artifacts recovered from the site represented the kitchen, and architecture groups, and a single marble represented the toys and activities group (Figure 38). The test unit contained a total of only three artifacts, including a glass fragment, a ceramic fragment and an unidentified iron fragment in the first 10 cm of fill.

The central GPS UTM coordinates for the site, which covers an area that measures 80 m by 60 m, are N3536283 E458854 and the elevation is 6 m AMSL. Similar to site 9BN181, site 9BN182 is not represented on the 1920R1926 USGS Limerick topographic map. This map, together with the 1920-1930 maker's mark suggests that the site may have been in use only after the map was revised, or was not recorded on the map.

In order to address the eligibility of site 9BN182 for the NHRP, the site's data sets, context, integrity, and possible research questions must be addressed. As mentioned, this site contains a total of 71 artifacts recovered from both shovel testing and the test unit which contributed to the kitchen, architecture, and toys and activities group, dating to the early twentieth century. Site 9BN182 lacks other data sets, such as architectural remains, construction hardware, clothing or personal artifacts, or subsistence remains. Without these additional data sets, the research questions that site 9BN182 could address are limited. With no diagnostic architectural artifacts, it is difficult to determine the function of the site. Ceramics are often used as a good indication of the time span of a site. However, in this case, the only dateable ceramics recovered from the site, other than the sherd with a maker's mark, are undecorated whiteware, which has a mean ceramic date of 1860 and was produced from 1813 to 1900. This does not provide a good chronological control for the site, further limiting the discussion of research questions that the site may address. The integrity of the site, based on the soils and surrounding topography, does not seem to be intact. In addition, the soils in the test unit and many of shovel tests were hard pan.

Based on this analysis, site 9BN182 is not recommended as eligible for inclusion on the NRHP. The data sets present at the site do not represent enough artifact groups or possess the chronological control necessary to address, or even prompt, significant research questions. No further management work is suggested for site 9BN182.

Isolated Find 9BN183

Isolated find 9BN183 is located 20 m south of Fort Stewart Road 58 and 1.5 km north of Georgia State Highway 144. A Palmer Corner-Notched point (Figure 39), was the only artifact recovered from the surface of an area that has been extensively borrowed

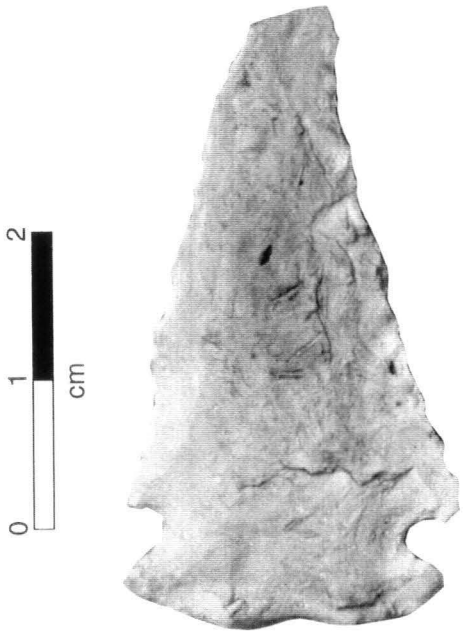

Figure 39. Palmer corner-notched point recovered from 9BN183.

Figure 40. Area around find 9BN183, view to the southwest..

and is surrounded by pines and hardwoods (Figure 40). Vegetation where the find was recovered consisted of only sparse grasses. Additional testing produced no other artifacts (Figure 41). The find is situated 6 m southwest of Shovel Test 1 on Transect 30, which ran south from Fort Stewart Road 58. The central GPS UTM coordinates for the site are N3536961 E459077 and the elevation is 6 m AMSL.

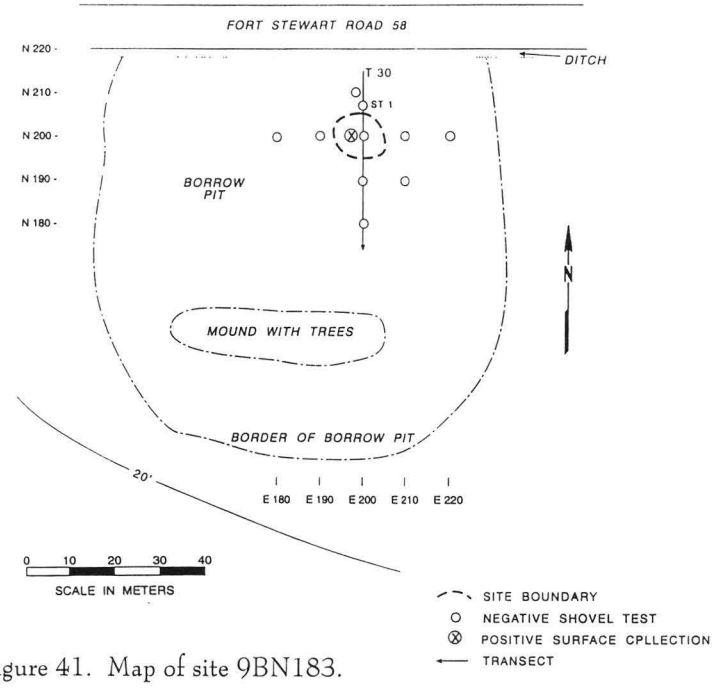

Figure 41. Map of site 9BN183.

Soils in the shovel tests consisted of yellow damp sand with small pebbles, and wet mottled clay. Site 9BN183 is located on Ocilla complex soils, a somewhat poorly drained soil that generally has an A horizon of loamy fine sand, and fine sand to 56 cm below the surface, and a B horizon of mottled sandy clay loam to 1.5 m below the surface. The soils encountered during shovel testing of the area suggest that the area has been borrowed to at least the bottom of the A horizon, exposing the B horizon. The point may have been exposed when the soils in the pit were borrowed.

Find 9BN183 is recommended as ineligible for the National Register of Historic Places because it does not possess the data sets necessary for significant research questions. No further testing or management work is suggested.

Isolated Find 9BN184

Isolated find 9BN184 is an isolated historic occurrence located 40 m south of Fort Stewart Road 58 and 1.4 km north of Georgia State Highway 144. The isolated find is located in an area of tree dead fall and the surrounding vegetation includes planted pines, mixed hardwoods, and scrub oaks. The central GPS UTM coordinates are N3537121 E459746 and the elevation is 6 m AMSL.

A single white button was recovered from Shovel Test 2 on Transect 56, which ran south from Fort Stewart Road 58. Eight additional shovel tests produced no other artifacts (Figure 42). These tests generally were dug to a depth of 45 cm below the surface.

The find was located on Ogeechee soils, a somewhat poorly drained soil series, which generally have an A horizon of loamy fine sand to 20 cm below the surface and a B horizon of sandy clay loam to sandy clay to 1.5 m below the surface. During shovel testing, subsoil generally occurred between 10 to 30 cm below the surfaces suggesting that the soils have been depleted in some areas.

This isolated find is recommended as ineligible for the National Register of Historic Places because it does not appear to possess the data sets necessary to address research questions.

Isolated Find 9BN185

Isolated historic find 9BN185 is located west of an un-named road and southeast of site 9BN113. It is located approximately 600 m north of Georgia State Highway 144. The find was located on a slight ridge south of a swamp and the vegetation includes planted pines, mixed hardwoods, and scrub oaks. The elevation is 12 m AMSL and the central GPS UTM coordinates are N3536480 E460118. Isolated find 9BN185 was located on Craven loamy fine sand, a moderately well drained soil.

At Shovel Test 1 on Transect 127, which ran east from the un-named road, a glass fragment and ceramic fragment were recovered. Five additional shovel tests revealed no other artifacts (see Figure 33). Shovel tests could not be excavated west and further north of the positive shovel tests because these fell in the road. Find 9BN185 is not considered a part of 9BN113 because it is located more than 20 m from a positive shovel test at 9BN113.

This isolated find does not possess the data sets necessary for significant research questions and is recommended as ineligible for inclusion on the

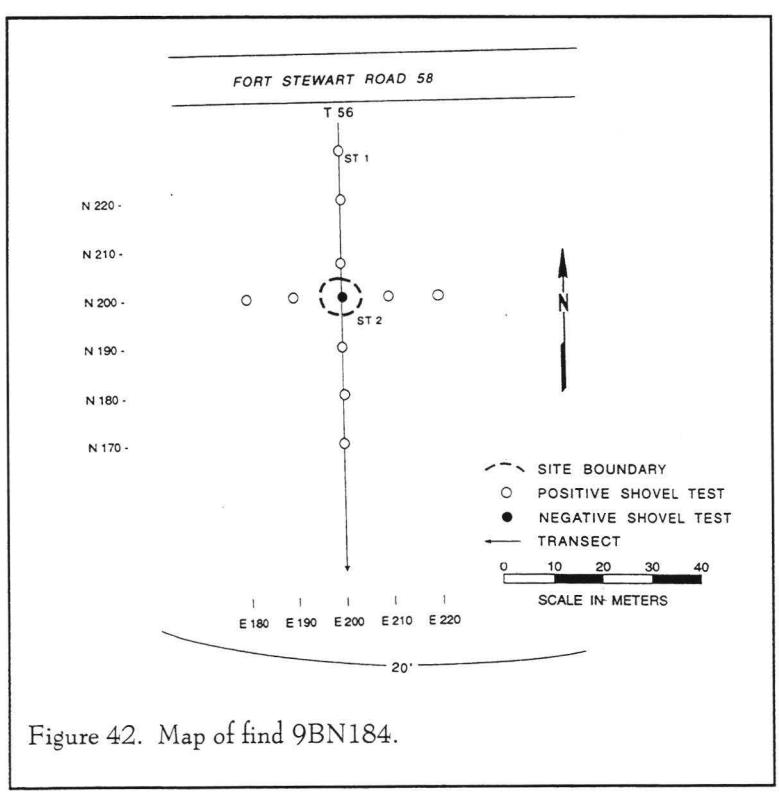

Figure 42. Map of find 9BN184.

National Register of Historic Places.

Site 9BN186

Site 9BN186 is the Roding Range, a 1940s antiaircraft training range. The Roding Range is being assessed in the context of Campbell and her colleagues' observation that very few sites from the fort's early period have been addressed. In addition, *National Register Bulletin 22* confirms that, "There is now sufficient perspective to enable an evaluation of many properties related to the Second World War" (Sherfy and Luce 1996:6).

As discussed in the **Prehistoric and Historic Overview**, the Roding Range was part of the antiaircraft training center created by Congress in June 1940 at Camp Stewart (U. S. Army 1941:12). Equipment included 800,000,000 candlepower antiaircraft searchlights. Antiaircraft guns used at the Roding Range probably included a Bofors 40 mm and .50 caliber guns. The range contained ten antiaircraft points and a main control tower. The ten points were located along the short roads that run perpendicular to the highway and each included a lavatory, storage building, control tower, a water hydrant, a water valve, and two street lights. Only Points 1-5 are located within the survey boundaries.

The only artifacts recovered from the range include an undecorated whiteware fragment and a clear glass fragment in the far west portion of the site. Eight additional shovel tests produced no other artifacts (Figure 43). The physical remnants of the Range include short roads (Figure 44) and a series of rectangular concrete foundations at each intersection. These foundations measure roughly 10 m by 30 m and consist of three areas separated by concrete slabs. The concrete slabs are roughly 20 cm in width and some have nuts and bolts at the corners.

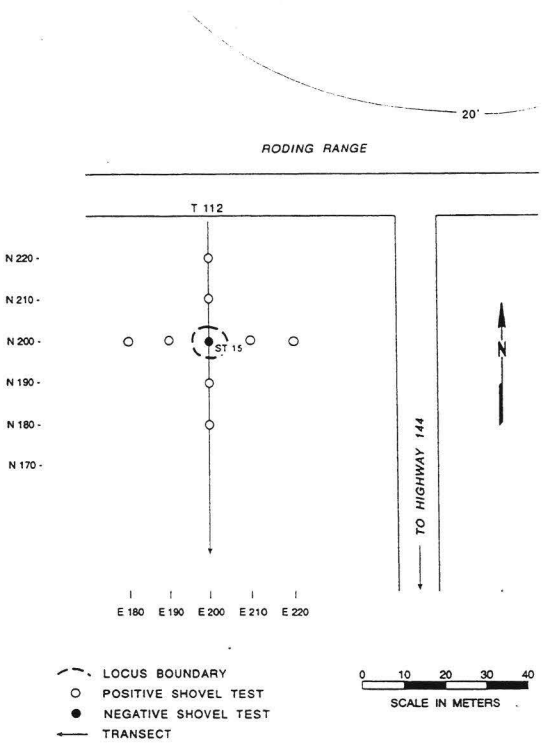

Figure 43. Shovel testing at 9BN186.

As mentioned in the **Prehistoric and Historic Overview**, a 1943 War Department map depicting Roding Range K indicates that the range consisted of ten antiaircraft points and a main control tower aligned along what is now Georgia State Highway 144 with a raised firing line located in front of the points and parallel to the highway. These ten points were accessed by a main road that ran parallel to Highway 144 and short roads that ran perpendicular to the main road. Five points were located west of the main control tower and five were located east of the main control tower. The five points located west of the main control tower fall into survey tract NRMU B24.2. Figure 45 shows Point 5 of Roding Range, which is identical in construction to Points 1-4. These five points contained a wooden control tower measuring

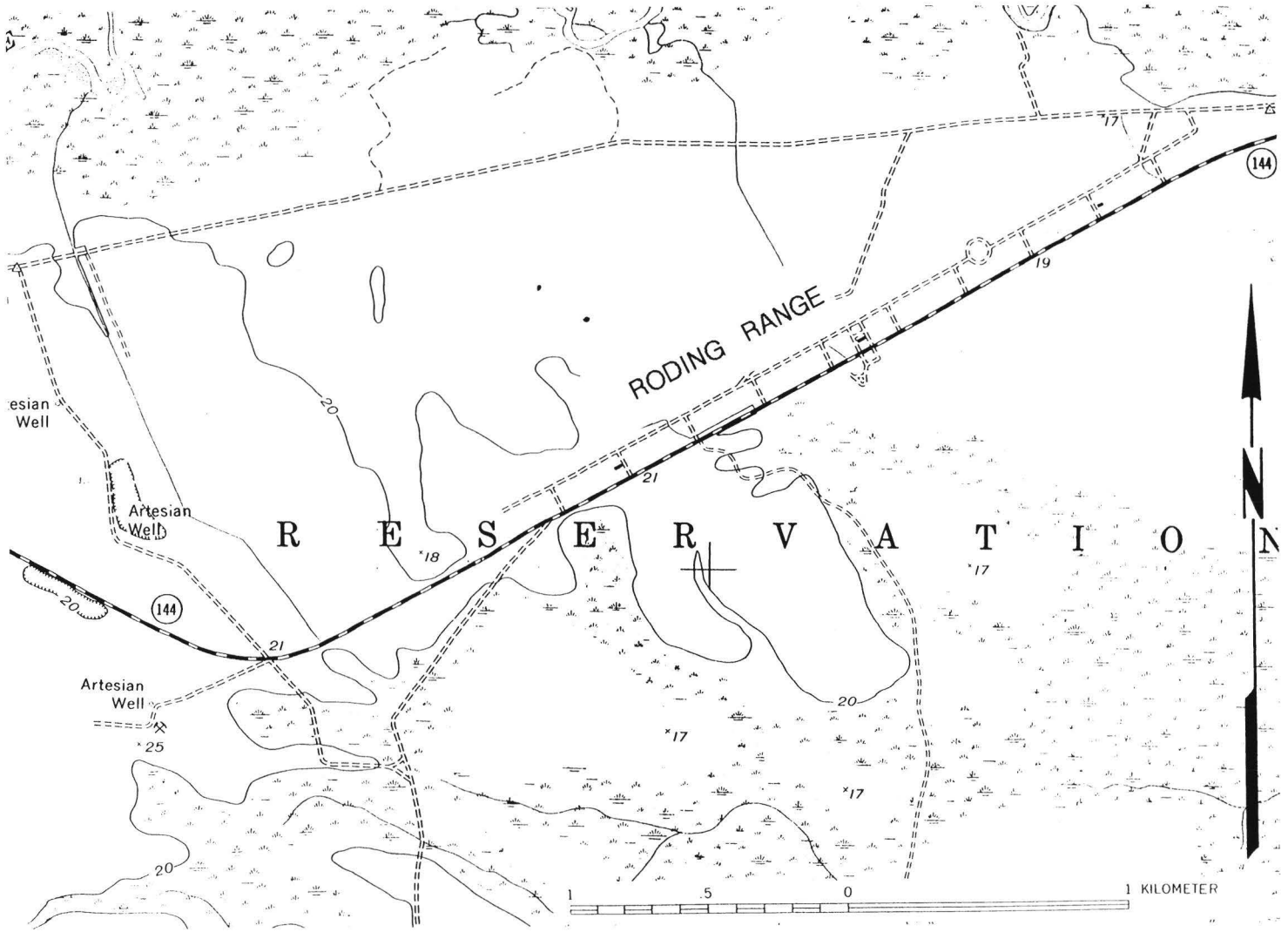

Figure 44. Map showing Roding Range 9BN186 (base map is USGS Limerick NW, 1958PR1973, 1:24,000).

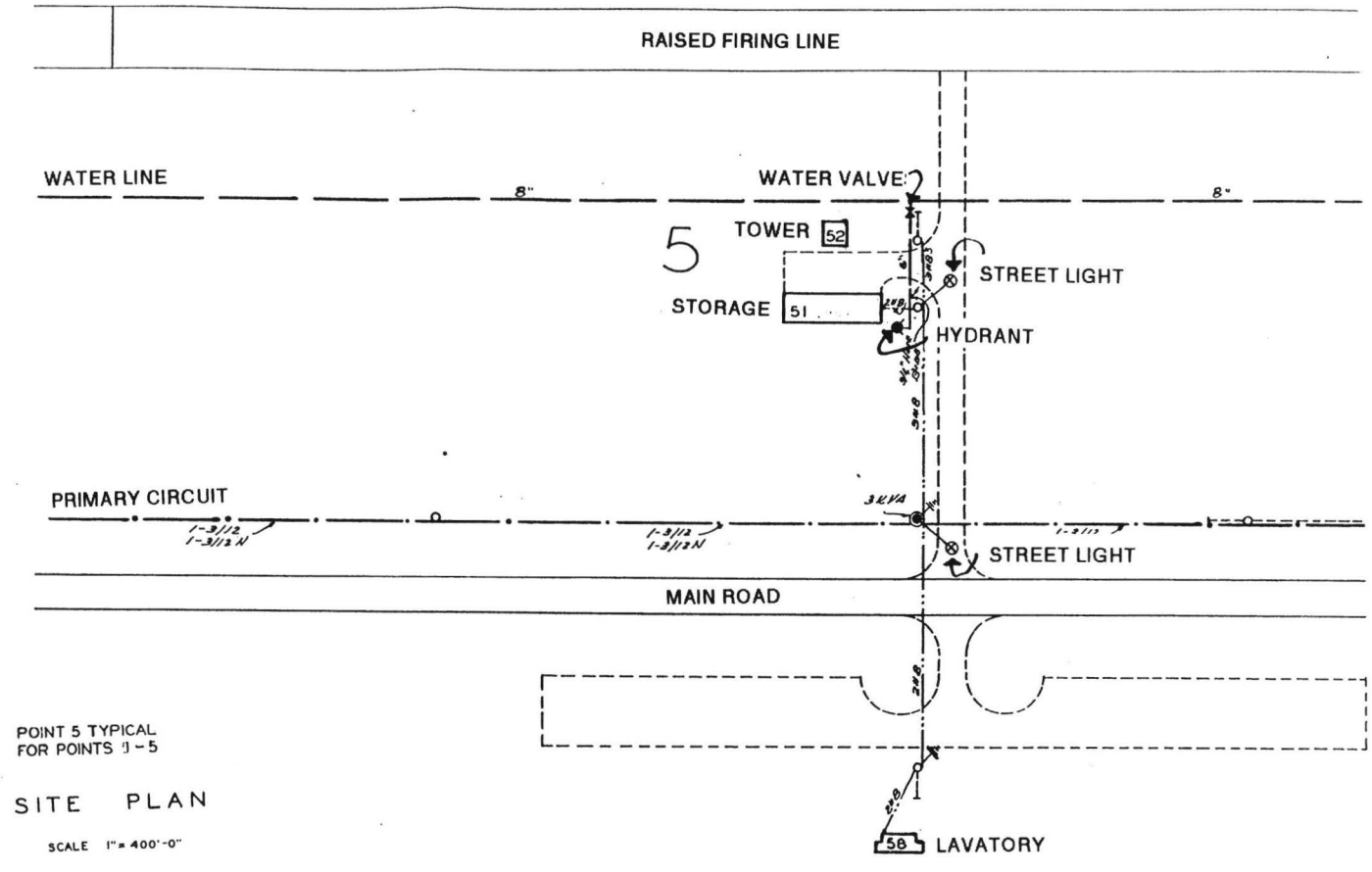

Figure 45. Point 5 at the Roding Range in NRMU B24.2 (map adapted from 1943 Roding Range K, Camp Stewart, GA, War Department, US Army Corps of Engineers).

Figure 46. Northwest view of concrete foundations in Roding Range, site 9BN186.

14.14 m^2, a storage building measuring 6.04 meters by 30.48 meters roughly east of the short roads and roughly north of the main road. The control tower was located approximately 61 meters northeast of the storage building. A water hydrant, a water valve, and two street lights were also located roughly east of the short roads. For each of these points, a lavatory was located south of the main road. The main control tower area included a T shaped gun placement, two lavatories, and a material repair building roughly south of the main road, while a storage building, main control tower, first aid building and well and pump were located roughly south of the main road. Points 6-10 contained the same structures as Points 1-5, although at Points 6-10 the structures were located roughly east of the short roads. The concrete foundations at site 9BN186 (Figure 46) most likely represent the remains of the foundations for the storage structures, which were rectangular in shape..

Like other sites, the Range must be evaluated in terms of data sets, the historic context, integrity, and the identification of important research questions. Roding Range may be considered under Criteria A as a site that is associated with events that have made a significant contribution to the broad patterns of our history (such as World War II), and Criteria D, as a site that has or may yield information important in history. *National Register Bulletin 36* notes that integrity of location, design, materials, and association are the most important considerations to take into account under Criteria A and Criteria D..

The range's association within the larger historic context, World War II, and the smaller context as an antiaircraft training center have been detailed in the **Prehistoric and Historic Overview**. This historic overview has placed Fort Stewart as the largest antiaircraft training center in the United States at the time of World War II, and Roding Range as one of two antiaircraft ranges on the post. The location of the range has not changed since its use as a training center, although the range is no longer in use. The design of the range and the materials used in the construction of

the range are not entirely intact, represented only by a series of roads and concrete foundations, and two artifacts recovered from the western edge of the range. In addition, the range's integrity is questionable. Based on this analyses, it would seem that the range is not eligible for inclusion on the National Register of Historic Places. However, because only a portion of the range is located within the survey boundaries examined, it is not possible to fully assess the range at the present time. For this reason, we recommend that the range be considered as indeterminate (potentially eligible) until the remainder of the range can be assessed.

CONCLUSIONS

Introduction

As a result of the intensive survey of the 793.22 ha in survey tracts NRMU A6.4, A8.1, and B24.2, five archaeological sites and four isolated occurrences were revisited or identified. Of these resources (which are briefly outlined in Table 13), one site, 9BN186, is recommended as indeterminate (potentially eligible) for inclusion on the National Register of Historic Places. The remaining eight sites and isolated occurrences are recommended as not eligible for inclusion on the National Register.

Issues discussed in these conclusions include an overview of the potentially eligible site, recommendations for further study to determine eligibility, and recommendations for the site's protection. Also included is an overview of current predictive modeling, which includes an examination of locational data; a discussion of seasonally wet areas in the survey tract, the use of historic maps as an indicator of historic sites on the survey tract, and an overview of what has been learned concerning the cultural phases present in the study area.

Historic Maps for Survey Tracts

Early twentieth century historic USGS quad maps were examined in order to determine which structures shown on the maps were located during surveys. Maps were located for all of the survey tracts. Survey tract areas were identified on these maps and structures shown on the maps were compared to sites that have been located during this survey. Site numbers were then applied to the structures on the historic maps that are likely to represent the located sites. Structures that were not located during the survey were also highlighted with arrows.

These maps also demonstrate that most, if not all, historic structures are located along historic roads. It is also important to note that historic sites were located in the survey tract that do not have associated structures on the historic maps. The number of structures located varies with each survey tract.

NRMU A6.4

The historic map located for A6.4 (Figure 47) shows no structures. No sites were located in this tract, suggesting that the soils and wetland area within the tract were not suitable for historic occupation of the area.

NRMU A8.1

The historic map for NRMU A8.1 shows four structures located along a main road, now Georgia State Highway 144 (Figure 48). No sites were found in these areas of the tract. These structures were located north of the road, and were not situated in the present survey tract, but in the tract across Georgia State Highway 144.

NRMU B24.2

The historic map for survey tract B24.2 shows a total of nine historic sites within the survey boundaries, with only one site (9BN113) located during the survey (Figure 49). Two additional historic sites (9BN181 and 9BN182) were located that are not shown on this historic map.

Two structures are shown adjacent to the road (now Fort Stewart Road 58A) that served as the eastern survey boundary. No trace of these structures was located during this survey. Three structures are shown located along the road that served as the north boundary (now Fort Stewart Road 58), with two on the south side of the road and one on the north side of the road. No sites were identified in these areas. The map also shows three structures located along a road that

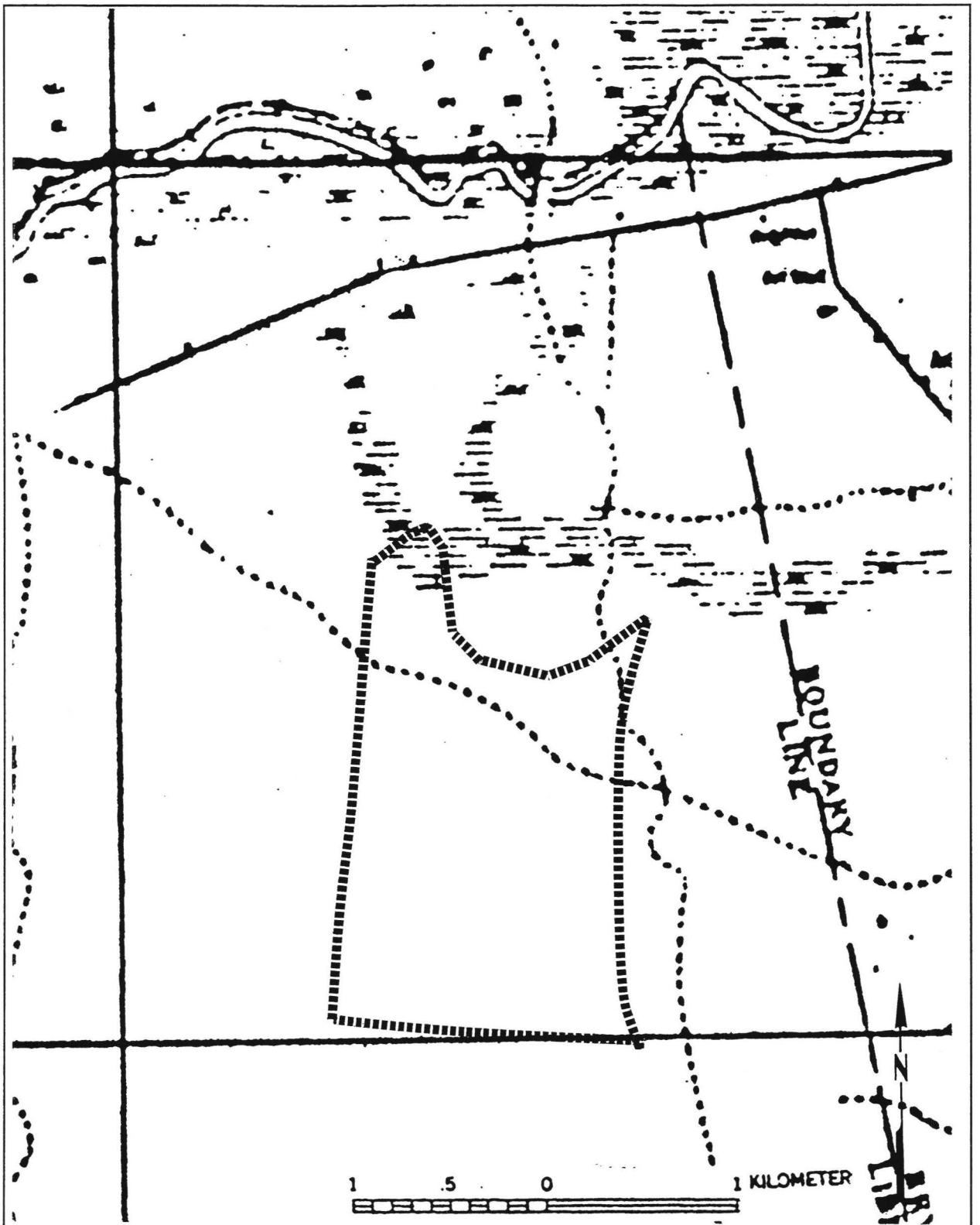

Figure 47. Historic map for NRMU A6.4,showing no structures (Limerick 1920R1926).

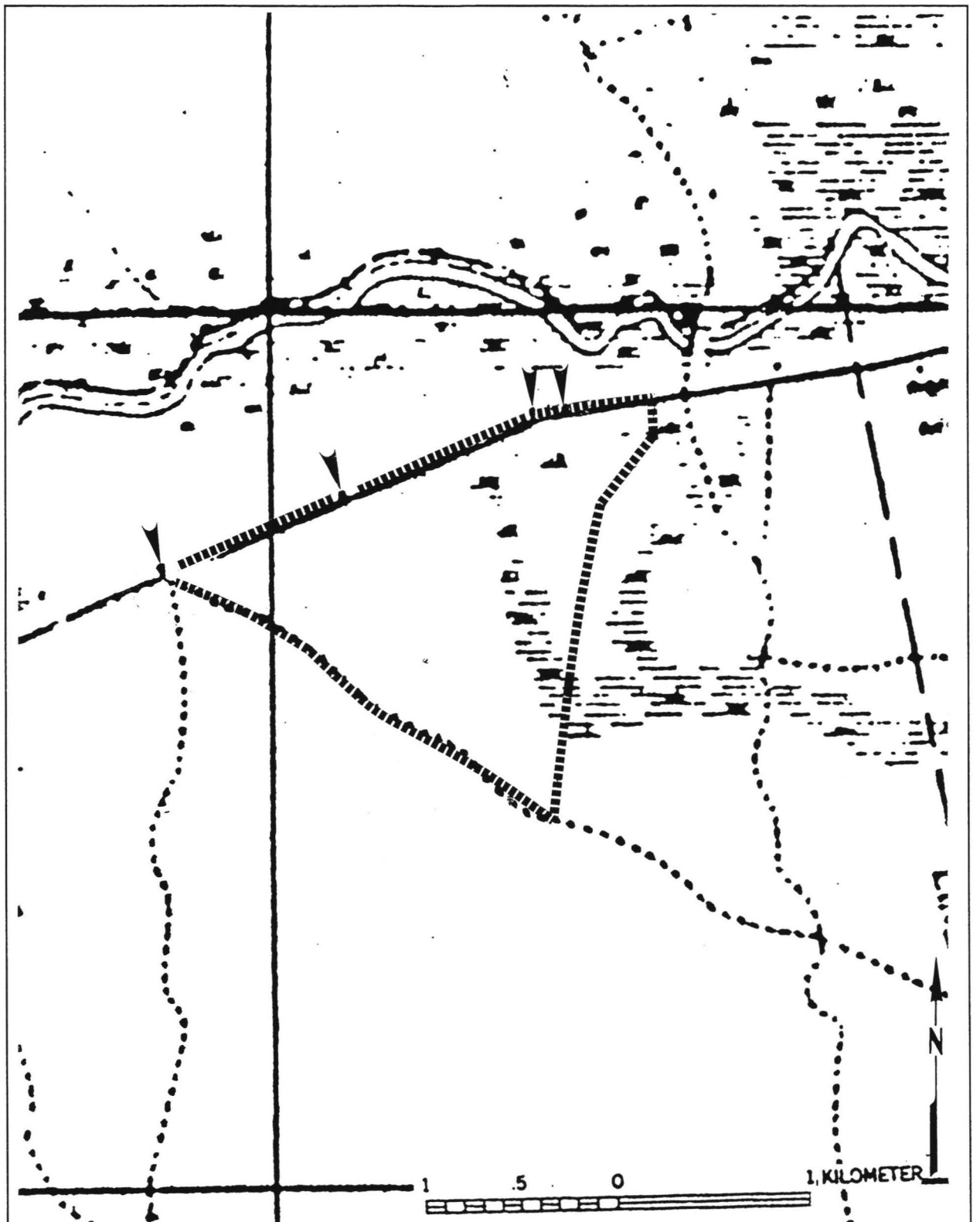

Figure 48. Historic structures not located in NRMU A8.1 (Limerick 1920R1926).

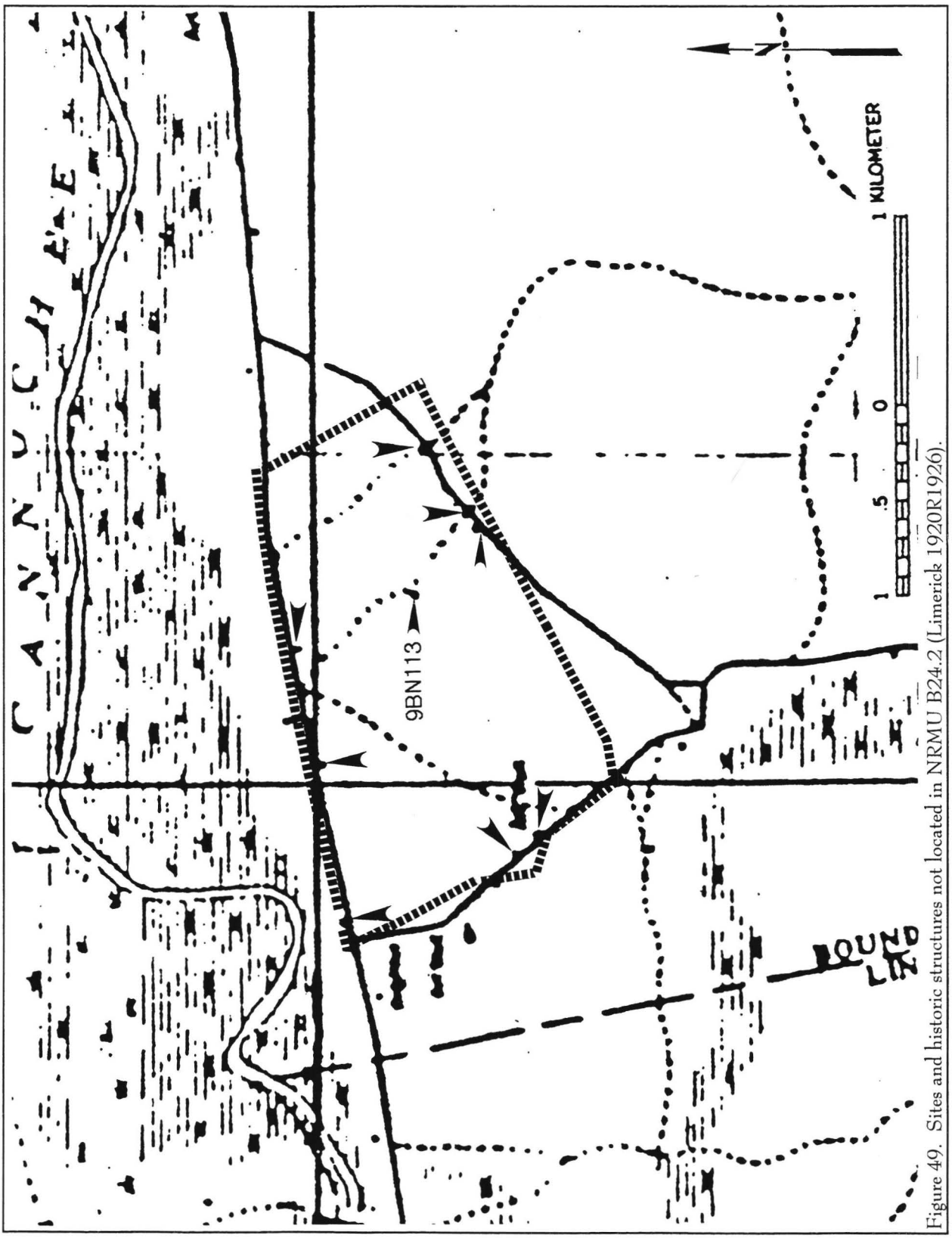

Figure 49. Sites and historic structures not located in NRMU B24.2 (Limerick 1920R1926).

runs roughly parallel with the southern boundary (Georgia State Highway 144) of the survey tract. No sites or isolated finds were located in these areas of the tract. It is likely that these structures, which are located in the general area of Roding Range, were razed during the construction of the Range.

Site 9BN113 is the only site located in the tract that can be associated with a structure on the map. This site is located approximately in the center of the survey tract along a dirt road. Shovel testing at the site produced a high density of twentieth century artifacts, most likely representing the remains of an early twentieth century house site.

The low expression of historic structures in the archaeological record for this tract suggests that either these sites have been destroyed, or that 30 m interval transects are not sufficient for recovering historic sites in this particular setting. In the case of the structures located along maintained Fort Stewart Roads 58 and 58A, it is likely that the structures were bulldozed and razed when the US Government bought the properties in the 1940s, and subsequent road maintenance has further destroyed any remnants of the structures. In addition, this portion of the post may have been cleared of any structures or debris prior to its use as an antiaircraft training center, further removing any evidence of structures shown on the historic map. Surface visibility in this tract was generally far less than 25%, with a dense leaf litter covering the ground. Any sites that may have been recognized through artifact surface scatters would not have been visible. Attempts were made to be especially aware of surface artifacts and brick rubble in areas with large oaks, which are often a good indication of historic sites.

Summary

A total of 13 historic structures are shown on historic maps for the three survey tracts. Only one site was located that can be associated with these structures, representing only 8% of the total structures shown on the maps. This is a surprisingly low recovery when compared with research previously undertaken by Chicora Foundation (Campo et al. 1999:167), which located 48% of the total structures shown on maps for survey tracts. There are two explanations for this low recovery of historic sites. First, over 50% of the structures shown on the historic maps are located along a well maintained road or a highway. The construction of the highway and road maintenance has affected the preservation of sites that may have been associated wit the structures. Second, the use of NRMU B24.2 as an antiaircraft-aircraft training area may have resulted in the removal of all structures and debris in the vicinity of training exercises, consequently affecting the preservation of possible sites.

In NRMU B24.2, two sites were located that are not associated with any structures on the historic maps, suggesting that a reliance on maps alone will not accurately recover archaeological sites. This also suggests that while the maps are a good beginning point for locating structures, they may not reveal all of the historic structures in an area. These sites may not have been recorded on maps by cartographers because they represent buildings that were perceived as inconsequential or temporary. Another explanation may be that these houses were not constructed, or had already been destroyed when the maps were drafted.

The current survey suggests that historic structures shown along highways and well maintained roads are less likely to be preserved than those located on roads that are not maintained. This and previous surveys also suggest that those areas used for military training are less well preserved than other areas.

Overview of Indeterminate Sites

Only one site, 9BN186, has been recommended as indeterminate for inclusion on the National Register of Historic Places.

9BN186

Site 9BN186, the historic Roding Range, was used prior to and during World War II as an antiaircraft training range. As noted in the **Prehistoric and Historic Overview**, towers, storage buildings, antiaircraft guns, lavatories, a raised firing line, roads, and a gun placement were located at the

Range.

The only remnants of the range present in NRMU B24.2 include two artifacts recovered from the far east portion of the range, concrete foundations, and the overgrown roads shown on various maps, including the USGS Limerick NW quad map. No other structural remains or artifacts were located in the area during this survey.

Site 9BN186 extends into adjoining training areas, which were not assessed during this survey. We recommend that the portion of the site in NRMU B24.2 be considered indeterminate until a survey in the adjoining training areas addresses the site's integrity and boundaries.

The Roding Range, if determined to be eligible, would most likely be nominated under Criteria A and/or D. Under both Criteria A and D, *National Register Bulletin 36* notes that integrity of location, design, materials, and association are the most important considerations to take into account.

Roding Range can be placed in the context of World War II as the largest antiaircraft training center in the United States at that time, and in the more local context as one of two antiaircraft training ranges on the post. Locational integrity at this portion of 9BN186 currently identified is relatively low. Although there are some foundation and road remains, it is obvious that structures have been removed from the area, affecting the integrity of design, materials, and association. In addition, there are very few archaeological data sets present at the site.

Based on this analyses, it would seem that the range is not eligible for inclusion on the National Register of Historic Places. However, because only a portion of the range is located within the survey boundaries examined, it is not possible to fully assess the range at the present time. For this reason, we recommend that the range be considered as indeterminate until the remainder of the range can be assessed.

Until such time as surveys in adjoining training areas can be undertaken, we recommended that the site be protected from military impacts. Any future activities affecting this portion of Fort Stewart should be made aware of the site's location.

The Current Predictive Model and Land Use

As was briefly discussed in the **Natural Setting** chapter, Fort Stewart has a predictive model developed by a rather limited survey, but "rigorous statistical manipulation of the survey results in relation to soil zones" (Campbell et al. 1996:203). The result was a series of 1:50,000 scale map which have "disappeared" (Campbell et al. 1996:211). Consequently, "the greatest problem with the model is that it cannot be duplicated" (Campbell et al. 1996:211).

Regardless, a reconstruction of this model by Campbell et al. (1996:214-217) led to the predictive maps for certain sections of the base. The original predictive model, which apparently used soils, stream rank, and perhaps other factors, has been reduced essentially to a reliance on soil drainage (Campbell et al. 1996:215-217).

However, a draft of a new revised probabilistic model for Fort Stewart takes into account the more than 15,378 hectares of archaeological surveys undertaken on post (McKivergan 1998). McKivergan (1998:1) discounts distance to water as a critical factor in site probability based on the post's excessive surface waters: According to McKivergan (1998:1), less than 687 hectares of the entire post are more than 500 meters from a surface water source. The revised predictive model places more importance on soil types, rather than distance to water, as an indication of sites throughout the post. Based on the 15,378 acres of archaeological survey, soil probabilities have been revised, and continue to be revised as more acreage is surveyed.

Currently, Albany loamy fine sands, Blanton sand, Bonifay fine sand, Dothan loamy sand (with slopes less than 2%), Fuquay loamy sand (with less than 5% slopes), Leefield loamy sand, Ocilla loamy fine

sand and complex, Osier soils, Pelham loamy sands, Stilson loamy sand, and Tifton loamy sand soils are classified as high probability soils, suggesting that these soils have a higher number of archaeological remains than other probability soils.

As seen in Tables 9, 10 and 11, the association between soil type and site location in this study may be tenuous at best. During this survey, a total of nine sites and isolated finds were located. The two isolated prehistoric finds were located on Ocilla complex (n=1) and Ocilla loamy fine sand (n=1), both somewhat poorly drained soils. The two isolated historic finds were located on Ogeechee loamy fine sand (n=1), and Craven loamy fine sand (n=1), a somewhat poorly drained and a moderately well drained soil, respectively. Four of the five historic sites were located on Pooler fine sandy loam (n=1), a poorly drained soil, Craven loamy fine sand (n=1), Ogeechee loamy fine sand (n=1), and Wahee sandy loam (n=1), a somewhat poorly drained soil. Historic site 9BN186, which encompasses 144,000 m^2, is located on four soil types, including Ocilla complex, Ogeechee loamy fine sand, Wahee sandy loam, and Craven loamy fine sand. Therefore, Craven and Ogeechee soils contain the highest percentage of sites at 25% each. Ocilla complex and Wahee soils each contain 17% of sites and finds recorded during this survey. Ocilla loamy fine sand and Pooler fine sandy loam each contain 8% of the sites located (see Table 10).

The highest percentage of sites and finds (67%) is located on somewhat poorly drained soils, which account for 46% of the total acreage surveyed (see Table 11). Poorly drained soils make up 37% of the total acreage for these tracts and contain 8% of the total sites. In contrast, moderately well drained soils, which make up 25% of the surveyed acreage, contain only 1% of the sites located. Very poorly drained soils contain no sites, and account for 16% of the total acreage surveyed. Although this sample size is very small, these numbers suggest that the number of sites in somewhat poorly drained soils is related to the total percentage of this type of soil drainage in the survey tracts.

The reader should understand that the acreage involved in the survey tract and the number of sites identified is very small. Hence, sample size is a concern. However, it is possible to analyze this small amount of data. First, it seems obvious that in the case of site 9BN186 (Roding Range), soil drainage was not a deciding factor in the location of the site. Second, the location of other historic sites, finds, and prehistoric finds on both somewhat poorly drained and moderately well drained soils indicates that there are other determinants besides soil drainage at work. In the case of historic sites, these determinants include access to roads. We cannot, however, say that other factors were not also at work in these areas. Our study, however, may do more to demonstrate that site probabilities are best based on a broad range of factors than to confirm the current predictive model.

Historic site locations tend to be found near roads; a majority of which were public prior to the acquisition of the Fort Stewart property in the 1940s, as can be seen in the location of structures along roads on the historic maps for the survey tracts. Of the historic sites and isolated occurrences located during the survey, each was found in an area that was either directly adjacent to roads, or within 50 to 100 m of a road.

When compared to previous surveys, a pattern for historic site location emerges. A survey of nine tracts in Evans and Liberty Counties found that of 38 historic sites and isolated occurrences, only six were not located along roads, but found between 50-200 m of a road (Campo et al. 1999:177). In the survey of tracts designated as "A-N," it was found that of the 30 historic sites, 13% were located at intersections, 30%, were located on a road, and 57% were within 50 to 510 m of a road (Trinkley et al. 1998). In the JAECK Drop Zone survey tract (Trinkley et al. 1996) two historic sites were recovered, both at intersections. Of the 32 sites recovered from two survey tracts in 1997 (Trinkley et al. 1997a), nine, or 28% were found at intersections, eight, or 25% were found on a road, and 47% were within 90 to 390 m of a road. Clearly, there is a correlation between road and historic site locations.

Although data from these studies is not adequate to support revisions in the Fort Stewart

predictive model, they do suggest, first, that site density is likely to exhibit considerable variation, and second, that the factors affecting site locations are more complex than the current model suggests.

Site Density

The three survey tracts were located in the eastern portion of Fort Stewart, along Georgia State Highway 144. Survey tract NRMU A6.4 produced no sites. Tract NRMU A8.1 produced 0.8 sites per km^2, while tract NRMU B24.2 yielded 2.7 sites per km^2. Overall the tracts yielded a site density of 1.13 per km^2.

The difference in site densities between the three survey tracts is at least partially accounted for in the environment, topography, and the location of historic roads in the survey tracts. Tract NRMU B24.2 contained the highest number of historic roads (see Figures 46-48) and also produced the highest number of sites. NRMU B24.2 was also located closer to a large water source (the Canoochee River) than tracts NRMU A8.1 or A6.4.

Overview of the Fort Stewart Chronology

One of the questions raised in the overview of the regional prehistoric chronologies was whether the Fort Stewart area was closely tied to the chronology proposed for the mouth of the Savannah River, or if the chronology suggested by more interior locations, such as the Ocmulgee Big Bend area, might be more appropriate. Unfortunately, the data are too sparse to permit even any tentative stabs at answering this question.

Although in previous studies (Trinkley et al. 1996a) it was found that there seem to be aspects of both coastal and interior coastal plain cultures present on Fort Stewart, the present study found only two isolated prehistoric occurrences, providing too few data to infer that any prehistoric occupation occurred in these tracts. One of these isolated finds was located in a borrow pit, and the other occurrence contained no diagnostic artifacts to indicate a temporal range for occupation.

As seen today, the project area does not contain any substantial water resources other than that provided by swamp margins. As well, the topography of the project area is relatively flat and thus does not offer any observation areas where prehistoric sites are commonly found.

Historic occupation of the post is found in the form of dispersed settlements and small communities. Many of these sites are located on early topographic maps of the base. The combined use of period maps and oral histories would likely provide the location of a great many unrecovered sites on Fort Stewart. As seen above, pre-base extant roads and intersections should be considered high probability areas for the discovery of historic sites.

The survey of NRMU B24.2 provided an opportunity to assess one of the military sites located on post. To date, very few of these sites dating from Fort Stewart's early history have been examined.

Effectiveness of Current Methodology

The primary methodological issue explored in this research is whether conventional shovel testing is an effective tool for the recovery of archaeological sites in the Fort Stewart setting.

There can be little doubt that shovel testing is the only effective tool for identifying archaeological sites in settings such as Fort Stewart. Even with the use of frequent burns as a forest management tool and the associated disturbance caused by the use of the post, ground visibility in the survey tracts was limited. Consequently, in this context shovel testing was both essential and successful.

As mentioned in previous studies (Campo et al. 1999), a secondary concern is the use of high and low probabilities areas designated on the survey tracts. While we believe separating survey tracts according to high and low probability areas is useful for completing surveys, the manner in which the tracts are separated is not easily manageable in the field, due to irregularly shaped low and high probability areas. Perhaps placing greater emphasis on topography and environment,

rather than relying primarily on soils, would alleviate these problems confronted in the field by establishing certain topographic areas and specific environments as high probability. Such high probability areas might include ridges, bluffs above major drainages, tracts adjacent to major drainages, and areas adjacent to historic roads. In addition, noting the location of historic structures on maps prior to fieldwork may possibly aid in the recovery of historic sites.

Another concern during this and previous surveys is the amount of shovel tests excavated in seasonally wet areas. Previous surveys have been conducted during seasons when much of the tracts have contained standing water, or shallow water tables. Shovel tests in areas with shallow water tables are excavated until the test fills with water and all soil is screened.

Most of this survey was undertaken during the months of November and December. It was noted that many areas that are designated as swamps, or wetlands, were quite dry during the survey. The vegetation in these areas exhibited characteristics of normally flooded areas, such as the water lines on the trees, the scouring of leaf litter, heavily reduced soil profiles, and the presence of wetland vegetation, such as cypress trees and bamboo plants.

Shovel tests were dug in all of these areas, with 98% of all tests dug in the survey tracts. It must be noted that absolutely no sites or isolated sites were encountered in the wetland areas. This finding, duplicating that of Campo et al. 1999, has implications for future surveys. While most wetland areas are designated low probability and require that shovel tests are dug every 50 m, rather than every 30 m, the underbrush and vegetation in wetland and swamp areas is normally so thick that merely walking through the vegetation can be problematic. We suggest that wetland and swamp areas continue to be designated as low probability areas, limiting the time spent in areas that are deficient in archaeological resources.

For future surveys we also recommend that a third category or level of investigation be defined for wetland areas, perhaps defined using the National Wetland Inventory maps prepared by the U.S. Fish and Wildlife Service. In these wetland areas, it might be appropriate to require shovel testing every 100 m at 100 m transect intervals.

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APPENDIX 1.
CATALOG OF RECOVERED MATERIALS

Acc.#	Box#	Bag#	County	Site #	Contractor	Project	Prov.	Contents	Date	Initials
041	2	1	Bryan	9BN113	Chicora	Fort Stewart 9	N200E80 S	1 clear glass	1-13-99	DH
041	2	2	Bryan	9BN113	Chicora	Fort Stewart 9	N170E70	1 small prehistoric sherd	1-13-99	DH
041	2	3	Bryan	9BN113	Chicora	Fort Stewart 9	N170E90	3 aqua glass, 1 fired bullet	1-13-99	DH
041	2	3	Bryan	9BN113	Chicora	Fort Stewart 9	N170E90	2 UID nail fragments, 1 small ph sherd	1-13-99	DH
041	1	4	Bryan	9BN113	Chicora	Fort Stewart 9	N170E110	1 bristol exterior stoneware	1-13-99	DH
041	2	4	Bryan	9BN113	Chicora	Fort Stewart 9	N170E110	1 mang. glass, 1 clear and white glass	1-13-99	DH
041	1	5	Bryan	9BN113	Chicora	Fort Stewart 9	N170E120	2 undec. whiteware, 1 milk glass	1-13-99	DH
041	2	5	Bryan	9BN113	Chicora	Fort Stewart 9	N170E120	7 blue glass, 2 aqua glass	1-13-99	DH
041	2	5	Bryan	9BN113	Chicora	Fort Stewart 9	N170E120	2 mang. glass, 8 clear glass	1-13-99	DH
041	2	5	Bryan	9BN113	Chicora	Fort Stewart 9	N170E120	2 melted glass, 2 wire cut nail frags	1-13-99	DH
041	1	5	Bryan	9BN113	Chicora	Fort Stewart 9	N170E120	2 wire cut nails, 1 suspender button	1-13-99	DH
041	1	6	Bryan	9BN113	Chicora	Fort Stewart 9	N170E130	2 undecorated whiteware	1-13-99	DH
041	2	6	Bryan	9BN113	Chicora	Fort Stewart 9	N170E130	1 bristol ext. stoneware, 1 shell frag	1-13-99	DH
041	2	7	Bryan	9BN113	Chicora	Fort Stewart 9	N180E80	1 milk glass	1-13-99	DH
041	1	8	Bryan	9BN113	Chicora	Fort Stewart 9	N180E110	5 undecorated whiteware fragments	1-13-99	DH
041	1	8	Bryan	9BN113	Chicora	Fort Stewart 9	N180E110	1 blue and brown tint whiteware	1-13-99	DH
041	2	8	Bryan	9BN113	Chicora	Fort Stewart 9	N180E110	1 brown glass, 5 clear glass	1-13-99	DH
041	1	9	Bryan	9BN113	Chicora	Fort Stewart 9	N180E120	2 undecorated whiteware	1-13-99	DH
041	2	10	Bryan	9BN113	Chicora	Fort Stewart 9	N180E160	1 clear glass	1-13-99	DH
041	1	11	Bryan	9BN113	Chicora	Fort Stewart 9	N190E90	1 undecorated whiteware	1-13-99	DH
041	2	11	Bryan	9BN113	Chicora	Fort Stewart 9	N190E90	1 clear glass	1-13-99	DH
041	2	12	Bryan	9BN113	Chicora	Fort Stewart 9	N200E90	1 UID iron stand, industrial	1-13-99	DH
041	1	13	Bryan	9BN113	Chicora	Fort Stewart 9	N200E110	3 undecorated whiteware	1-13-99	DH
041	1	14	Bryan	9BN113	Chicora	Fort Stewart 9	N200E110	1 brown stoneware	1-13-99	DH
041	2	14	Bryan	9BN113	Chicora	Fort Stewart 9	N200E110	2 UID man-made material	1-13-99	DH
041	2	15	Bryan	9BN113	Chicora	Fort Stewart 9	N200E150	1 aqua glass, 1 clear glass	1-13-99	DH
041	1	15	Bryan	9BN113	Chicora	Fort Stewart 9	N200E150	1 milk glass button	1-13-99	DH
041	1	16	Bryan	9BN113	Chicora	Fort Stewart 9	N200E160	1 undecorated whiteware	1-13-99	DH
041	1	16	Bryan	9BN113	Chicora	Fort Stewart 9	N200E160	1 wire cut nail	1-13-99	DH
041	2	17	Bryan	9BN113	Chicora	Fort Stewart 9	N200E180	1 aqua, 1 mang., 2 clear glass fragments	1-13-99	DH
041	1	18	Bryan	9BN113	Chicora	Fort Stewart 9	N200E200	2 undecorated whiteware	1-13-99	DH
041	1	18	Bryan	9BN113	Chicora	Fort Stewart 9	N200E200	1 white porcelain	1-13-99	DH
041	2	18	Bryan	9BN113	Chicora	Fort Stewart 9	N200E200	1 brown, 7 aqua, 5 lt. green glass	1-13-99	DH
041	2	18	Bryan	9BN113	Chicora	Fort Stewart 9	N200E200	1 blue, 12 mang., 58 clear glass	1-13-99	DH
041	2	18	Bryan	9BN113	Chicora	Fort Stewart 9	N200E200	1 window glass, 1 UID nail fragment	1-13-99	DH
041	2	19	Bryan	9BN113	Chicora	Fort Stewart 9	N210E80	1 brown, 1 green glass	1-13-99	DH
041	1	20	Bryan	9BN113	Chicora	Fort Stewart 9	N210E90	2 bristol ext. stoneware	1-13-99	DH
041	2	20	Bryan	9BN113	Chicora	Fort Stewart 9	N210E90	1 aqua, 1 lt. green glass	1-13-99	DH
041	1	21	Bryan	9BN113	Chicora	Fort Stewart 9	N210E130	4 undecorated whiteware	1-13-99	DH
041	1	21	Bryan	9BN113	Chicora	Fort Stewart 9	N210E130	1 blue transfer print whiteware	1-13-99	DH
041	2	21	Bryan	9BN113	Chicora	Fort Stewart 9	N210E130	1 green, 10 clear glass fragments	1-13-99	DH
041	1	21	Bryan	9BN113	Chicora	Fort Stewart 9	N210E130	2 wire cut nails	1-13-99	DH
041	2	21	Bryan	9BN113	Chicora	Fort Stewart 9	N210E130	7 UID nail frags, 1 small PH sherd	1-13-99	DH
041	1	22	Bryan	9BN113	Chicora	Fort Stewart 9	N210E140	1 undecorated whiteware	1-13-99	DH

Acc.#	Box#	Bag#	County	Site #	Contractor	Project	Prov.	Contents	Date	Initials
041	2	22	Bryan	9BN113	Chicora	Fort Stewart 9	N210E140	1 mang., 1 clear glass fragments	1-13-99	DH
041	2	22	Bryan	9BN113	Chicora	Fort Stewart 9	N210E140	2 UID nail fragments	1-13-99	DH
041	1	23	Bryan	9BN113	Chicora	Fort Stewart 9	N210E150	1 undecorated whiteware fragment	1-13-99	DH
041	2	24	Bryan	9BN113	Chicora	Fort Stewart 9	N220E130	1 aqua, 1 clear glass fragments	1-13-99	DH
041	1	25	Bryan	9BN113	Chicora	Fort Stewart 9	N220E140	1 undecorated whiteware fragment	1-13-99	DH
041	2	25	Bryan	9BN113	Chicora	Fort Stewart 9	N220E140	1 mang. glass	1-13-99	DH
041	1	26	Bryan	9BN113	Chicora	Fort Stewart 9	N220E150	1 undecorated whiteware fragment	1-13-99	DH
041	2	26	Bryan	9BN113	Chicora	Fort Stewart 9	N220E150	1 brown, 1 mang., 1 clear glass frags	1-13-99	DH
041	1	26	Bryan	9BN113	Chicora	Fort Stewart 9	N220E150	1 molded black glass button	1-13-99	DH
041	2	27	Bryan	9BN113	Chicora	Fort Stewart 9	N220E160	1 blue, 1 aqua, 6 clear glass frags	1-13-99	DH
041	2	28	Bryan	9BN113	Chicora	Fort Stewart 9	N230E140	1 aqua, 1 clear glass fragments	1-13-99	DH
041	2	29	Bryan	9BN113	Chicora	Fort Stewart 9	N230E150	8 brown, 1 aqua glass fragments	1-13-99	DH
041	2	30	Bryan	9BN113	Chicora	Fort Stewart 9	N240E150	2 industrial stoneware	1-13-99	DH
041	1	31	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 0-10cm	1 undecorated whiteware	1-13-99	DH
041	2	31	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 0-10cm	1 brown, 1 milk, 1 mang., glass frags	1-13-99	DH
041	2	31	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 0-10cm	2 aqua, 1 clear glass fragments	1-13-99	DH
041	2	31	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 0-10cm	1 UID nail frag, 1 thin flat iron	1-13-99	DH
041	1	31	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 0-10cm	1 Herty cup fragment	1-13-99	DH
041	1	32	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 10-20cm	5 undecorated whiteware	1-13-99	DH
041	2	32	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 10-20cm	1 brown, 4 aqua, 7 clear glass frags	1-13-99	DH
041	1	32	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 10-20cm	1 machine cut nail, 2 wire cut nails	1-13-99	DH
041	2	32	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 10-20cm	6 UID nail fragments, 1 thin flat iron	1-13-99	DH
041	2	33	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 20-30cm	1 brown, 4 clear glass fragments	1-13-99	DH
041	2	33	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 20-30cm	8 UID nail fragments	1-13-99	DH
041	1	34	Bryan	9BN113	Chicora	Fort Stewart 9	TU7A 30-40cm	1 wire cut nail	1-13-99	DH
041	2	35	Bryan	9BN181	Chicora	Fort Stewart 9	N180E210 Sur	1 clear glass	1-13-99	DH
041	1	36	Bryan	9BN181	Chicora	Fort Stewart 9	N180E220 Sur	1 clear whole glass bottle	1-13-99	DH
041	1	37	Bryan	9BN181	Chicora	Fort Stewart 9	N180E230 Sur	1 clear whole glass bottle	1-13-99	DH
041	1	38	Bryan	9BN181	Chicora	Fort Stewart 9	N200E200 Sur	2 clear whole glass bottles	1-13-99	DH
041	1	39	Bryan	9BN181	Chicora	Fort Stewart 9	N140E200	1 alkaline glaze stoneware	1-13-99	DH
041	2	39	Bryan	9BN181	Chicora	Fort Stewart 9	N140E200	1 black, 1 clear glass fragments	1-13-99	DH
041	2	40	Bryan	9BN181	Chicora	Fort Stewart 9	N150E200	2 aqua glass fragments	1-13-99	DH
041	1	41	Bryan	9BN181	Chicora	Fort Stewart 9	N160E210	1 undecorated whiteware	1-13-99	DH
041	1	41	Bryan	9BN181	Chicora	Fort Stewart 9	N160E210	1 albany slip stoneware	1-13-99	DH
041	2	41	Bryan	9BN181	Chicora	Fort Stewart 9	N160E210	1 aqua, 4 clear glass	1-13-99	DH
041	1	42	Bryan	9BN181	Chicora	Fort Stewart 9	N170E200	1 undecorated whiteware	1-13-99	DH
041	2	42	Bryan	9BN181	Chicora	Fort Stewart 9	N170E200	1 clear glass	1-13-99	DH
041	1	43	Bryan	9BN181	Chicora	Fort Stewart 9	N170E210	1 undecorated whiteware	1-13-99	DH
041	2	43	Bryan	9BN181	Chicora	Fort Stewart 9	N170E210	1 brown, 5 mang., 4 aqua glass frags	1-13-99	DH
041	2	43	Bryan	9BN181	Chicora	Fort Stewart 9	N170E210	11 window glass, 9 UID nail fragments	1-13-99	DH
041	2	44	Bryan	9BN181	Chicora	Fort Stewart 9	N180E190	1 aqua glass	1-13-99	DH
041	1	45	Bryan	9BN181	Chicora	Fort Stewart 9	N180E200	1 undecorated whiteware	1-13-99	DH
041	2	45	Bryan	9BN181	Chicora	Fort Stewart 9	N180E200	1 brown, 2 clear glass fragments	1-13-99	DH
041	2	46	Bryan	9BN181	Chicora	Fort Stewart 9	N180E210	15 brown glass fragments	1-13-99	DH
041	2	47	Bryan	9BN181	Chicora	Fort Stewart 9	N180E220	1 mang., 2 clear glass fragments	1-13-99	DH

Acc.#	Box#	Bag#	County	Site #	Contractor	Project	Prov.	Contents	Date	Initials
041	1	48	Bryan	9BN181	Chicora	Fort Stewart 9	N190E190	1 bristol ext. stoneware	1-13-99	DH
041	2	49	Bryan	9BN181	Chicora	Fort Stewart 9	N200E190	9 clear glass fragments	1-13-99	DH
041	2	50	Bryan	9BN181	Chicora	Fort Stewart 9	N200E200	1 aqua, 1 clear glass fragments	1-13-99	DH
041	1	51	Bryan	9BN181	Chicora	Fort Stewart 9	N200E210	3 red earthenware, clear lead glaze	1-13-99	DH
041	2	51	Bryan	9BN181	Chicora	Fort Stewart 9	N200E210	2 lt green, 1 mang. glass fragments	1-13-99	DH
041	1	52	Bryan	9BN181	Chicora	Fort Stewart 9	TU 1 0-10cm	1 bristol ext. stoneware	1-13-99	DH
041	2	52	Bryan	9BN181	Chicora	Fort Stewart 9	TU 1 0-10cm	4 clear glass, 9 UID nail fragments	1-13-99	DH
041	2	53	Bryan	9BN181	Chicora	Fort Stewart 9	TU 1 10-20cm	2 UID nail fragments	1-13-99	DH
041	1	54	Bryan	9BN182	Chicora	Fort Stewart 9	N120E210	1 burnt porcelain	1-13-99	DH
041	1	55	Bryan	9BN182	Chicora	Fort Stewart 9	N120E230	4 undecorated whiteware	1-13-99	DH
041	2	56	Bryan	9BN182	Chicora	Fort Stewart 9	N130E220	3 clear, 1 pink glass fragments	1-13-99	DH
041	2	56	Bryan	9BN182	Chicora	Fort Stewart 9	N130E220	2 wire cut nails	1-13-99	DH
041	1	57	Bryan	9BN182	Chicora	Fort Stewart 9	N140E240	1 bristol ext. stoneware	1-13-99	DH
041	2	57	Bryan	9BN182	Chicora	Fort Stewart 9	N140E240	1 lt green glass, 1 brick fragment	1-13-99	DH
041	2	57	Bryan	9BN182	Chicora	Fort Stewart 9	N140E240	4 wire fragments, 1barbed wire fragment	1-13-99	DH
041	1	58	Bryan	9BN182	Chicora	Fort Stewart 9	N150E220	1 glass marble, yellow and white	1-13-99	DH
041	2	58	Bryan	9BN182	Chicora	Fort Stewart 9	N150E220	1 clear glass, 1 window glass	1-13-99	DH
041	2	59	Bryan	9BN182	Chicora	Fort Stewart 9	N150E240	1 blue glass	1-13-99	DH
041	2	60	Bryan	9BN182	Chicora	Fort Stewart 9	N160E200	5 UID nail fragments	1-13-99	DH
041	2	61	Bryan	9BN182	Chicora	Fort Stewart 9	N160E210	1 UID nail fragments	1-13-99	DH
041	2	62	Bryan	9BN182	Chicora	Fort Stewart 9	N160E220	2 black, 1 brown, 2 clear glass frags	1-13-99	DH
041	1	63	Bryan	9BN182	Chicora	Fort Stewart 9	N180E180	1 undecorated whiteware	1-13-99	DH
041	2	63	Bryan	9BN182	Chicora	Fort Stewart 9	N180E180	2 bristol ext. stoneware	1-13-99	DH
041	2	64	Bryan	9BN182	Chicora	Fort Stewart 9	N180E190	2 UID nail fragments	1-13-99	DH
041	2	65	Bryan	9BN182	Chicora	Fort Stewart 9	N180E200	3 mang. glass	1-13-99	DH
041	1	65	Bryan	9BN182	Chicora	Fort Stewart 9	N180E200	1 wire cut nail	1-13-99	DH
041	1	66	Bryan	9BN182	Chicora	Fort Stewart 9	N180E220	1 undecorated whiteware	1-13-99	DH
041	1	66	Bryan	9BN182	Chicora	Fort Stewart 9	N180E220	1 alkaline glaze stoneware	1-13-99	DH
041	2	66	Bryan	9BN182	Chicora	Fort Stewart 9	N180E220	1 clear glass	1-13-99	DH
041	1	67	Bryan	9BN182	Chicora	Fort Stewart 9	N190E240	2 mang. lid knob glass fragments	1-13-99	DH
041	2	68	Bryan	9BN182	Chicora	Fort Stewart 9	N200E200	1 aqua, 6 clear glass, 1 UID nail frag	1-13-99	DH
041	2	69	Bryan	9BN182	Chicora	Fort Stewart 9	N200E210	1 mang. glass, 6 thin iron frags	1-13-99	DH
041	2	70	Bryan	9BN182	Chicora	Fort Stewart 9	N200E230	1 brown, 1 clear glass frags, 1 UID iron	1-13-99	DH
041	1	71	Bryan	9BN182	Chicora	Fort Stewart 9	N200E240	1 undecorated whiteware	1-13-99	DH
041	2	71	Bryan	9BN182	Chicora	Fort Stewart 9	N200E240	1 mang. glass	1-13-99	DH
041	1	72	Bryan	9BN182	Chicora	Fort Stewart 9	TU 2 0-10cm	1 undecorated whiteware	1-13-99	DH
041	2	72	Bryan	9BN182	Chicora	Fort Stewart 9	TU2 0-10cm	1 clear glass, 1 UID nail frag	1-13-99	DH
041	1	73	Bryan	9BN183	Chicora	Fort Stewart 9	N200E200 Sur	1 Palmer corner notched chert point	1-13-99	DH
041	1	74	Bryan	9BN184	Chicora	Fort Stewart 9	N200E200	1 white button	1-13-99	DH
041	1	75	Bryan	9BN185	Chicora	Fort Stewart 9	N170E190	1 undecorated whiteware	1-13-99	DH
041	2	75	Bryan	9BN185	Chicora	Fort Stewart 9	N170E190	1 clear glass	1-13-99	DH
041	2	76	Bryan	9BN186	Chicora	Fort Stewart 9	N200E200	1 mang. glass, 1 window glass	1-13-99	DH
041	1	77	Bryan	B24.2	Chicora	Fort Stewart 9	T122 ST10sur	1 Herty pan	1-13-99	DH
041	1	78	Bryan	B24.2	Chicora	Fort Stewart 9	T123 ST3sur	1 Herty pan	1-13-99	DH
041	1	79	Bryan	B24.2	Chicora	Fort Stewart 9	T174 ST2sur	1 tin Herty pan	1-13-99	DH

Acc.#	Box#	Bag#	County	Site #	Contractor	Project	Prov.	Contents	Date	Initials
041	2	80	Liberty	9LI420	Chicora	Fort Stewart 9	N200E200	1 secondary chert flake	1-13-99	DH
041	2	80	LIberty	9LI420	Chicora	Fort Stewart 9	N200E200	4 tertiary chert flakes	1-13-99	DH
041	1	81	Liberty	9LI422	Chicora	Fort Stewart 9	TU10 0-10cm	5 Herty cup fragments	1-13-99	DH
041	1	82	Liberty	9LI422	Chicora	Fort Stewart 9	TU10 0-10cm	2 Herty cup fragments	1-13-99	DH

ARCHAEOLOGICAL INVESTIGATIONS

HISTORIC RESEARCH

PRESERVATION

EDUCATION

INTERPRETATION

HERITAGE MARKETING

MUSEUM SUPPORT PROGRAMS

Chicora Foundation, Inc.
P.O. Box 8664 ▪ 861 Arbutus Drive
Columbia, South Carolina 29202-8664
Tel: 803/787-6910
Fax: 803/787-6910
Email: Chicora@bellsouth.net
www.chicora.org

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